THE CHEMIST AND DRUGGIST

ESTABLISHED 1859.

PRINCIPAL OFFICE, 42 CANNON STREET, LONDON, E.C.

BRANCH OFFICE:
NORMANBY CHAMBERS, MELBOURNE.

Published every Saturday.

Subscription 10s. per year, payable in advance; commencing from any date.

Post free to every country in the world. Single copies, 4*d.* each.

Supplied only to persons connected with the Trade.

For Australasian subscribers the subsidiary journal THE CHEMIST AND DRUGGIST OF AUSTRALASIA is included.

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THE High Court of Justiciary at Edinburgh has quashed the conviction of the Leith Depôt (Limited), recorded in the Sheriff's Court of that city. This leaves the interpretation of the law as regards the Pharmacy Act in the same position as it has been during the past seven years. It is now open to the Pharmaceutical Society to appeal to the House of Lords on the new point raised.

THE Irish Pharmaceutical Society have failed in a prosecution, owing apparently to carelessness in presenting their evidence.

ANOTHER death from carbolic acid in a gallipot! When will the medical department of the Privy Council discover that this substance is a poison?

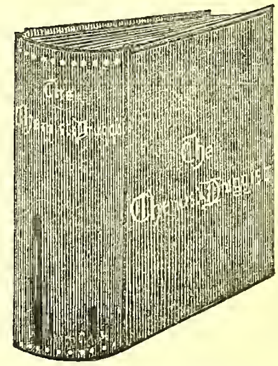
WE publish some interesting communications this week from correspondents in Queensland, Tasmania, and Ceylon. Our Queensland correspondents take opposite views of the conditions of life in the colony, but by reading all the letters a fair idea of pharmacy in the colonies is gained.

MEDICAL DEGREES.—At a meeting of the Royal College of Surgeons held on July 14, a letter was read from the secretaries of University College and King's College, London, forwarding, by direction of the Councils of those Colleges, a copy of a petition which has been presented to Her Majesty in Council by the two Colleges, commending the petitioners' prayer to the attention of the President, and expressing their hope that it will meet with the co-operation and support of the College. The reply given to this (by the surgeons) was that the Colleges of Physicians and Surgeons have determined to proceed independently with their own petition for a charter to grant degrees in Medicine and in Surgery.

MINCING LANE REPORTS are not very lively just now. There is a demand for citric and tartaric acids, which are dearer, and disinfectants are also wanted. The leading home makers of quinine have just announced a reduction of 2*d.* in that product. The unfavourable reports regarding the opium crop are now fully confirmed.

CIRCULARS TO THE TRADE.—We shall be prepared to stitch up with our next issue (July 30)—and not again this year—suitable circulars as advertisements. We can guarantee the perfect circulation of eleven thousand, all to the drug trade, and about a third of them to colonial and foreign firms. Wholesale houses, manufacturers, and specialists are invited to correspond about this opportunity. A tinted circular stitched up with a journal of the reputation of THE CHEMIST AND DRUGGIST is a most effective method of advertisement, and it will be found that it can be issued in this manner at less than one-third the cost of postage.

WE have prepared a set of forms for small advertisements (assistants wanted, businesses for disposal, Exchange column, &c.). With these are attached tables of useful reference matter (Sale of Poisons, Postal Information, Annual Licences, Metric Weights, Measures, Medicine Stamps, Law and Public Offices, &c.). We shall be glad to send one of these sets to any subscriber who will send us an addressed postal wrapper (bearing a halfpenny stamp). As the object of this production is to encourage the insertion of such advertisements as we have named in THE CHEMIST AND DRUGGIST, we hope this offer will be taken advantage of chiefly by those subscribers who are willing to use this journal whenever opportunities occur.



THE reading cases which we offer to subscribers are now used by a very large number of chemists, and are found very convenient. They keep together thirteen numbers in very tidy form, always ready for reference. By having two cases in hand the numbers of a complete volume are always available until the time comes for binding. We sell these cases at the office for 1*s.*, or by parcels post 1*s.* 3*d.*, or two for 2*s.* 3*d.* We cannot forward them to any house for enclosure, nor by any of the carriers, as in the latter case we have to pay for booking.

ADVERTISEMENTS of employers and assistants can now be received by us up to the first post on Friday mornings, and will be inserted in the current week's issue.

STENCIL INK.—A good basis for stencil ink is made with shellac, 2 oz.; borax, 2 oz.; water, 25 oz.; and gum arabic, 2 oz. Boil the borax, shellac, and some water until they are dissolved, add the gum arabic and withdraw from the fire. When the solution has become cold, complete 25 oz. with water. For black ink use fine lamp-black, for red venetian red, and for blue ultramarine and chalk. Add these to the basis in sufficient quantity to make the mixture of proper consistency.

ANTISEPTIC MOUTH-WASH.—One of the greatest living authorities upon buccal bacteriology, Dr. Miller, finds that, by using the following mixture, he could completely sterilise the mouth, cavities in carious teeth, &c:—Thymol, 4 grains; benzoic acid, 45 grains; tincture of eucalyptus, 3½ fluid drachms; water, 25 fluid oz. The mouth is to be well rinsed with this mixture, especially before going to bed. For retail a mixture of water and spirit is required for a presentable preparation, and it should be made much stronger, say 5, instead of 25 oz., and diluted when required.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

QUALITATIVE ANALYSIS.

THE subject of the next exercise will be a mixture of *two* salts. It is to be submitted to a thorough systematic examination, such as is required to detect all its constituents and to demonstrate the absence of other substances. In reporting students are to give a brief account of the analysis, with a summary of the results obtained, distinguishing as far as possible any accidental impurities which may be detected from the chief constituents of the mixture.

Students' applications for a portion of the mixture of two salts will be received up to Wednesday, July 20, and the samples will be forwarded on the 25th.

Students' reports will be received up to August 15.

REPORTS.

The mixture of salts sent to correspondents in May consisted of equal parts of acid potassium tartrate and calcium carbonate. By a curious accident these proportions correspond almost exactly to the following percentage composition :—

K	10
Ca	20
CO_3	30
$C_4H_5O_6$	40
	100

Of the thirty-two reports received there were twenty in which the constituents of the mixture were correctly reported. Six students failed to detect potassium, the same number failed to detect the tartaric radicle, and one was unable to discover the carbonate. Amongst the elements stated to have been detected are antimony, cobalt, and strontium. Three students reported that a citrate, and not a tartrate, was present.

In this analysis the presence of organic matter constituted the sole difficulty, if, indeed, any real difficulty can be said to have existed. Students are too apt to forget that the reactions upon which analytical methods are based are not absolutely invariable, and they proceed upon the assumption that under any condition that may arise the reactions described in their text-books must take place. Now if there is any circumstance more likely than another to disturb the reactions of inorganic bodies, it is the presence of organic matter. There are comparatively few reactions of analytical interest which are not more or less affected by the presence of such bodies as tartaric or citric acid, hence the importance of determining in the earliest stages of the examination whether such substances are present. Fortunately this is a very simple operation, as it is difficult to misinterpret the effect produced by heating the substance under examination. In the case of a tartrate, not only is carbonisation observed, but the peculiar odour which accompanies this change is most characteristic, and cannot readily be mistaken. The odours produced in carbonising tartrates, citrates, and sugar are to some extent similar, but there are differences which are difficult to describe, and which we must ask students to observe for themselves; once observed, they are not likely to be forgotten. After the detection of organic matter the next step is the removal of it, and for this purpose ignition is almost invariably adopted. The stage at which ignition is resorted to is a matter of some importance, as it must be remembered that volatile matter will be expelled, and therefore the possible presence of such compounds as those of mercury and arsenic must be considered. The plan most generally applicable is to evaporate the filtrate from sulphuretted hydrogen to dryness, and to ignite the residue; but if the absence of volatile metallic substances can be ensured, it obviously simplifies matters to ignite the dry substance before making a solution of it. It is scarcely necessary to observe that in the detection of the acidulous radicles, the presence of organic matter, and the effects produced by ignition must also be fully considered. In short, the student will find that success in analysis, as in everything else, is only attained by a constant exercise of judgment, and to judge correctly demands attentive observation and study.

PRIZES.

The First Prize for the best analysis has been awarded to
ERNEST LIONEL FOSTER, 2 Bank of England Place, Plymouth.

The Second Prize has been awarded to
HERBERT W. BRASSINGTON, Brook Street, Rugeley.

Marks Awarded for Analyses.

E. L. Foster (1st prize) ..	95	G. W. Bindloss	78
H. W. Brassington (2nd prize)	92	W. R. B.	75
H. A. D.	90	E. C. J. Davis	75
J. S. Kay	88	W. C. Marshall	75
Lewis Ough	86	Sphinx	75
Alfred Shaw	85	T. R. Ashton	75
W. A. N.	85	G. E. S. S.	70
Gradation	85	E. H. Butler	70
Frederick Park	83	S. T. Reid	65
John H. Leech	83	G. E. P.	65
J. C. Kidd	82	Welshman	65
Hugh Miller	82	E. W. Harper	60
Capsicum	80	F. Boyce	55
W. H. W. Peck	80	Colvin Gates	50
Veritas	80	Beginner	40
Hamamelis	80	Pyramid	35

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

*** All communications should include the names and addresses of the writers.

E. C. J. DAVIS.—In a mixture of this sort the flame test alone can give very little information respecting the quantity of the alkalies present. The residue left when the filtrate from ammonium carbonate is evaporated and ignited affords the only safe indication of the quantity of alkali.

SPHINX.—It is true that you diluted both acids, but your methods were defective, and the examination was clearly insufficient to prove the absence of all other substances.

T. R. ASHTON.—Our correspondents are not expected to give quantitative results; the quantities given above are merely intended as a guide to students, who are, no doubt, interested to know with what quantity of each constituent they have been dealing. Your results were correct, but they were arrived at by a method which was far from being exhaustive.

G. E. S. S.—The reactions which distinguish a citrate from a tartrate are not very sharp, and it is unsafe to rely upon a single test, however conclusive it may appear to be.

S. T. REID.—The crimson flame colouration produced by strontium is intense, and it is difficult to confound the effect produced by even a trace of strontium with the comparatively dull-reddish yellow colouration produced by calcium.

G. E. P.—You occupy the unique position of being the only student who failed to detect the carbonic radicle—an omission which left nearly one-third of the mixture unaccounted for. It is undoubtedly the most easily detected of all the acidulous radicles.

WELSHMAN.—See remarks to G. E. S. S.

E. W. HARPER.—You should be careful to see that your final conclusions agree with all the observations made in the course of the analysis. For example, you observed that the powder charred when heated, and you concluded that the mixture consisted of calcium and potassium as carbonate and chloride, which, of course, would not char.

F. Boyce.—Your report is more of the character of a dissertation on analysis in general than an account of this particular analysis. You should state briefly what you did with the powder, what you observed, and the inferences drawn from these observations.

C. Gates.—It will repay you to make a mixture of the composition you assigned to this, and repeat your work with it. You will find the results will be very different from those you observed.

Beginner.—It was a grave omission not to observe that the powder charred when heated. The blue colouration of the borax bead must have been imaginary.

Pyramid.—You did not apply any test which would reveal the presence of organic matter except heating with sulphuric acid, when effervescence seems to have been the only effect you observed.

Metropolitan Reports.

Making Sure !—Mr. Braxton Hicks held an inquiry on the 14th inst. into the circumstances attending the death of Rebecca Murphy, aged 66, of 7 Kennard Street, Battersea. From the evidence it appeared that Mrs. Murphy had not only swallowed a bottleful of lotion, but had cut her throat with a razor. Dr. Sewell, from whom the lotion had been obtained, stated that it consisted of opium and carbonate of soda, and Dr. H. O. Grenfell, assistant medical officer at the infirmary, stated that death was caused by cerebral hemorrhage accelerated by opium-poisoning. The jury returned a verdict of "Suicide while of unsound mind."

Laudanum-poisoning.—Dr. Danford Thomas held an inquest at University College Hospital on Monday on the body of Mr. R. H. Hutton, the famous bone-setter, of 36 Queen Anne Street, Cavendish Square. It was stated that a medical rubber, who was accustomed to wait on Mr. Hutton, poured him out a draught on Saturday morning from a bottle standing on a table in the bedroom. He did this at Mr. Hutton's request without looking at the bottle, which he subsequently found was labelled "Poison." It was proved that death was due to laudanum-poisoning, and the jury returned a verdict of "Death from misadventure." Mr. Hutton was forty-seven years of age, and had a special reputation among hunting men.

Carbolic Acid in a Gallipot.—Dr. G. Danford Thomas held an inquest on Tuesday on the body of John West, aged six years and two months. Emma West, wife of a house-painter, living at 46 Southampton Row, Maitland Park, and mother of the deceased, stated that since the death of another child she had purchased some carbolic acid as a disinfectant, and had placed it under the bed in a gallipot. On Friday morning she heard deceased making a peculiar noise, and she saw he was holding a gallipot in his hand, and that there were stains of the carbolic round his mouth. She called in a doctor, but the child died an hour and a half afterwards. The doctor found that death resulted from the effects of carbolic acid in a crude state. He now called the attention of the Coroner to the fact of these kinds of poisons being sold with impunity by oil-shop keepers, and said he thought the parents showed culpable negligence in leaving a vessel about holding so dangerous a poison. The jury ultimately returned a verdict of "Death from misadventure."

A Novel Defence.—In the Lord Mayor's Court on Monday last, Charles Winter, chemist and druggist, of Bethnal Green Road, sued John Hay for 270*l.* money lent. The defendant admitted having borrowed the money, which was used for the purpose of defending him in a criminal action brought against him. In March, 1883, Hay said he was arrested upon a charge of which he was absolutely innocent. He was charged by the Great Eastern Railway Company with stealing a quantity of silk. He was then in a comfortable position. He had saved 1,000*l.* after going 8,600 miles to earn it, and he had settled down in London as a publican. He was dragged away from his business and put upon his trial. The first trial resulted in a disagreement of the jury. In a subsequent trial the learned judge told the jury that the evidence in his favour was absolutely overwhelming; but in spite of that he was found guilty, and sentenced to seven years' penal servitude. He petitioned the then Home Secretary, and an inquiry was instituted, with the result that he was given a full pardon by the Queen. Upon the strength of that he commenced an action to recover damages against the Great Eastern Railway for malicious prosecution. The late Assistant-Judge of the Lord Mayor's Court ruled that, having been convicted, he was dead in the eyes of the law, and could not sue. He now contended that if he was dead in the eyes of the law he could not be sued. What was sauce for the goose was sauce for the gander. He had lost all his money and was in debt about 900*l.* He had much better have served the whole seven years in prison, because then the statute of limitations would have applied, and he could not possibly have been sued. He was worse off with the Queen's pardon than without it.

Mr. Kemp, Q.C. (who chanced to be in court at the time), said that he appeared for the present defendant when he was plaintiff in the other action. He certainly had never come across a harder case in the course of his experience. The law said that in spite of the Queen's free and unconditional pardon, he was not a whole man.

The learned Recorder said he would put the case to the bottom of the list, and consider what could be done.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

DUBLIN.

Prosecution under the Pharmacy Act of Ireland.—On Tuesday, at the Southern Police Court, before Mr. Woodlock, Frederick Sweeney, of 1 Lincoln Place, Westland Row, was summoned for having compounded medicines without holding a registrar's licence, as required by the Pharmacy Act. The prosecution was at the suit of Thomas Prescott, an inspector of the Pharmaceutical Society of Ireland. Mr. Ennis appeared for the prosecution, and Mr. Bradley defended. Mr. Prescott deposed that he entered Mr. Sweeny's establishment on June 9 and asked the defendant to compound a prescription. Defendant did so, and charged him 1*s.* 6*d.* for it. Mr. Bradley: Did you write out the prescription?—No, I got it. From whom? — From the President of the Pharmaceutical Society. I see it is headed "Emily Brighton"?—Yes. Who is she?—I don't know anything about her. Is Mr. Sweeney the owner of the establishment?—I don't know. Mr. Ferrall, Registrar to the Society, proved that the defendant's name was not on the register, and stated that there was aconite in the mixture. Mr. Bradley to Mr. Ferrall: Are you a medical man?—I am not. Have you any qualification?—I hope so. As a medical man, have you any?—No. Have you any from the Pharmaceutical Society?—No. Mr. Woodlock: Have you a licence, or anything at all? No. I am registrar of the Society. Mr. Bradley: What does that bottle (produced) contain?—I cannot say; I believe aconite. Mr. Bradley asked his worship to dismiss the summons, as there was no proof of what the bottle contained nor that the contents had not been tampered with. Mr. Woodlock said in his opinion the Pharmaceutical Society had not properly sustained their case, and under those circumstances he would dismiss the summons. Mr. Ennis asked his worship's permission to withdraw the summons, which was granted.

HULL.

Death from the Hypodermic Administration of Morphia.—At an inquest held last week at Hedon, near Hull, it appeared that Mrs. Hebblethwaite, wife of a land agent and surveyor, had died from morphia injections. Dr. Jackson, Hedon, had attended her for a cold and pain in the back. She suffered pain and had sleepless nights. He had administered one dose of morphia hypodermically which killed the pain, but did not induce sleep. Finding from her weak state that it was of paramount importance to her to obtain sleep, he gave her a fuller dose of morphia hypodermically on Saturday evening, and some minutes after left the house, as he thought she was going to get rest. He was sent for again at 11.30, and found signs of morphia poisoning. She died at four o'clock on Sunday morning. Deceased was weakened by being subjected to violent vomiting on the previous Thursday, and had been harassed with household matters. He did not give her a larger dose of morphia than usual, and in her condition she needed it. Dr. F. Nicholson, of Hull, said that it was in his opinion desirable that morphia should be administered, and it was right and proper to give it hypodermically. The first dose was within the ordinary range of those given. He did not consider the second dose to have been, under the circumstances, too large or improper. Larger doses were constantly given. The jury found "That the deceased died from the effects of morphia hypodermically administered with due care by her medical attendant on account of exhaustion and sleeplessness."

LIVERPOOL.

Alleged Chemical Annoyances.—At the Liverpool County Court on Monday, Thomas Ellison, residing at Uxbridge Street, Wavertree Road, sued his next-door neighbour, named Smith, for having so used his house that his (the plaintiff's) house became damaged and uninhabitable. For this damages were claimed. The plaintiff's case was that the defendant had bored holes through the party walls, and had passed through obnoxious liquids, and powders which had a sulphurous smell, and rendered the use of plaintiff's premises impossible. They had not slept in one bedroom for five years. He also alleged that the defendant had placed chemicals under the seat of his (plaintiff's) yard water-closet, by which he (the plaintiff) had been injured. Defendant and his family denied all knowledge of the offences charged. A verdict was found for the defendant, and judgment was granted, with costs.

The Analyst's Remuneration.—The *Liverpool Mercury* has lately been writing about our municipal administration, and in course of the article shows how the work and the remuneration of the city analyst have increased during the past three years. For the year ending August 31, 1883, Dr. Campbell Brown received 200*l.* as salary, 50*l.* for laboratory expenses, and 9*l.* 18*s.* 2*d.* for petty cash disbursements. Against this there is a sum of 78*l.* 5*s.* for fines and fees, so that the analytical department cost the city 181*l.* 13*s.* 2*d.* in that year. In March, 1884, the Council resolved that Dr. Brown's salary should be increased to 250*l.*, and that, in addition to being allowed to retain all fees payable for his attendances in court, he should be paid 10*s.* 6*d.* each for all analyses over 320. The result of this is that the expense of the analytical department for the year ending December 31, 1886, was as follows:—

	£	*s.*	*d.*
Dr. Campbell Brown, salary	250	0	0
Additional analyses	512	18	6
Disbursements	39	0	5
	801	18	11
Deduct fines	118	14	6
Total expenses for the year	683	4	5

Take the fines as the basis of the work done, the *Mercury* puts it that there has been an increase in result equal to 57 per cent., and an increase in the cost to the Corporation of obtaining that increased result equal to 279 per cent.

MANCHESTER.

The Cornbrook Explosion.—When the inquest on James Martin, who was killed by the explosion at the works of Messrs. Roberts, Dale & Co., was resumed on the 14th inst., the chief witness was Mr. R. T. Dale, the manager of the chemical processes. Mr. Dale named all the chemicals he knew of in the works, which were, besides picric acid, nitrate of lead residuum, oxide of lead, copperas, carbolic acid, and a small quantity of nitrate of strontium, and some arsenic. The picric acid was practically the only substance which had entirely disappeared in consequence of the explosion. The explosion was perfectly incomprehensible to him. They manufactured the picric acid for dyeing purposes. He did not know of any other purpose to which it was put, except sometimes to mix with bitter beer.

The Coroner: Is there any truth in the report that it was being sold to the French Government directly or indirectly?

Witness said he did not know. The picric acid was manufactured in the usual way. The process of manufacture had not been varied during the last ten years, nor had the proportions been materially altered. It was all manufactured on the side the explosion took place.

The Coroner asked witness to describe the process by which the firm manufactured picric acid.

Witness said they started with carbolic acid or the raw material.

Mr. Yates, interposing, said the firm had no objection to disclose the process to the coroner and the jury, but they did not wish to make known trade secrets to the public.

The Coroner asked witness if the firm's process was the process described in the books.

Witness said he did not think so. He believed there were specialities in the firm's process.

Mr. Sington insisted that the process should be described in detail. The witness, who knew the facts, said he could form no opinion as to the cause of the explosion, and it was therefore highly desirable the facts should be submitted to somebody else.

Mr. Yates said all the particulars of the process had been disclosed to Colonel Majendie and Dr. Du Pre.

The Coroner said that being so, he would not in the meantime pursue the matter.

The foreman of the jury asked if any two of the articles made on the works would in combination form an explosive? Mr. Dale said this was possible if picrate of lead was produced. Picrate of lead was not described in the books as a powerful explosive unless combined with nitrate of potash. Being asked whether there was any nitrate of potash on the works, Mr. Dale said there was some, but it was at a considerable distance—100 feet—away from the place where the explosion occurred. A portion of it had been destroyed by the fire.

After further examination the inquest was adjourned till August 4, when Colonel Majendie is expected to give evidence.

NORTHAMPTON.

County Analysts' Reports.—The Chief Constable has reported that the inspectors had, during the quarter, procured and submitted to Dr. Emmerson fourteen samples of bread, fourteen of butter, and one of soda water. Three of the samples of bread were adulterated with alum—one with 58 grains, and the other with 54 grains—and one with 47 grains in a 4-lb. loaf. Proceedings were pending. In the 47-grain case the defendant was fined 2*s.* 6*d.* and 9*s.* 6*d.* costs. The soda water was deficient in soda-bicarbonate, but the analyst did not recommend a prosecution, it being well charged with carbonic acid gas. Mr. Otto Hehner, another of the county analysts, examined twenty-seven samples, twenty consisted of spirits, and half of these were watered beyond the legal limit.

NOTTINGHAM.

Charge of Defrauding a Chemist.—At the Nottingham Summer Assizes, before Mr. Justice Hawkins, on July 15, Job Rackham, 40, commission agent, and Frank Lewis, 35, commission agent, were indicted on a charge of having obtained certain goods from Frederick Johnson, manager for Mrs. White, chemist and druggist, Wilford Road, Nottingham, on a forged order, on May 20 last. Mr. Dominick Daly prosecuted, and Mr. H. Y. Stanger defended Lewis. Mr. Daly said the prisoners had been employed by a Mr. Harrison, of Dunkirk, a little village between Beeston and Nottingham, and were engaged in painting tricycles. It was a condition of their employment that they were paid a certain sum for their work, and they found their own paint. On May 20 Lewis called upon Mr. Frederick Johnson, and asked him for 30*s.* or 40*s.* worth of goods such as they were using on credit. Mr. Johnson said if he would get Mr. Harrison to give him a note he should have the goods required. Lewis went away, and in the course of five or six hours returned with a note purporting to come from Mr. Harrison, asking that credit should be given to the extent of 1*l*. As regarded the other prisoner, the case against him was that he had aided and assisted Lewis in committing this forgery, by which Mr. Johnson had lost his goods. When Johnson, having his suspicions aroused, went to inquire about the matter, he was met by Rackham, who said he was the person who wrote the letter in Harrison's name, and gave it to Lewis, who took it away and got goods for it, and he was, therefore, responsible for it, but had Mr. Harrison's authority to write it. If that were so, of course it removed all culpability from the prisoners. But when the prisoners were brought face to face with Mr. Harrison, he denied absolutely all knowledge of these transactions, saying that he did not write the note, and that he had not given Rackham authority to use his name. Frederick Johnson gave evidence in support of Mr. Daly's statement. Henry Harrison, of Dunkirk, also gave evidence, and in cross-examination by Mr. Stanger, said that he had known Rackham for several years. He lived at a club of which Rackham was the secretary. Rackham had written several letters on his behalf. Cross-examined by Rackham: He might have been with him at the Wheat Sheaf Inn on May 20, but denied having given him authority then to write the letter. Rackham had previously ordered goods for him. After some police evidence Mr. Daly addressed the jury, and Mr. Stanger followed on behalf of Lewis. He pointed out that, although in the first instance his client asked for 30*s*. or 40*s*. worth of goods, the order he produced was only for a pound's worth. Rackham, in addressing the jury, said he was ordering goods for Harrison at the time, and was authorised by him to write the order for 1*l*. His Lordship having summed up, the jury found the prisoners not guilty and they were discharged.

OLDHAM.

THE SALE OF FOOD AND DRUGS ACT.—At the Police Court on July 14, before Messrs. G. Wainright and H. Lees, John Whalley, druggist 470, Manchester Road, Hollinwood, appeared on an adjourned summons under the Sale of Food and Drugs Act for selling adulterated mustard for pure mustard. At the previous hearing Mr. Ascroft, who appeared for the defendant, desired that Mr. Charles Estcourt, the borough analyst, should give his evidence verbally, and the case had been adjourned for that purpose. Mr. Winser, who represented the complainant, the medical officer of health, explained that on June 6 a clerk in the sanitary department of the Corporation, named Haslop, was sent with a sanitary inspector named Clarke Thomas, to purchase the mustard. Haslop went into the shop, and asked the son of defendant for a quarter of a pound of mustard. A quarter of a pound of something was weighed out and handed to the purchaser wrapped in paper, for which he paid 4½*d*. Haslop then told the salesman that he wanted the mustard for analytical purposes, on which the salesman said, "Oh, this is not sold for pure mustard; it is Colman's mustard," and he further said he had forgotten to label the packet, offering to do so then. The inspector at that point came into the shop, and taking the packet of mustard, he divided it as required by the Act. Mr. Estcourt having analysed one of the portions certified that it contained 15 per cent. of some starchy matter, probably flour. Evidence of the purchase having been given by Haslop and Thomas (the former stating in cross-examination that he asked for mustard and not for pure mustard), Mr. Charles Estcourt, analyst for the borough of Oldham and the city of Manchester, testified in support of his certificate. He said further that quite 60 per cent. of the samples of mustard forwarded to him for analysis were pure, and they generally had been sold without labels. It was usual for people purchasing mustard at a druggist's shop to ask for mustard simply. Cross-examined by Mr. Ascroft: Only genuine mustard was useful for the purpose of vesication, and the sample submitted to him would probably not have produced a blister on the skin. Dr. Stewart, practising in Oldham, said he had had considerable experience in the use of mustard for medical purposes, and he had found that pure mustard only was useful for the purpose of vesication by medical men. He based that opinion on the knowledge of several cases where adulterated mustard had been used in the place of pure mustard without the desired result. If he asked for mustard at a druggist's shop he should expect to receive pure mustard. Mr. Ascroft, on behalf of the defendant, said he had several objections to raise, the first of which was that the summons was bad, because the information had been laid by one person, whilst the evidence clearly showed that the analysis was obtained by another person. Mr. Winser contended that a deputy could be appointed in the matter, but the Bench waived the objection for a time. Mr. Ascroft said his next point was that the prosecution was one which ought never to have been brought. The Act was never intended to be applied to such a "trumpery and frivolous case" as that, in order to occupy the attention of any sanitary department. It was not shown either by the prosecution that the article sold by the defendant was at all injurious to the health of the purchasers, which was the real object of the Act. He submitted that the flour which was found in the mustard had been added by the manufacturers in order to make it a fit article of commerce as a condiment; that the same kind of mustard was used all over the world as mustard, and that the flour was for the purpose of keeping in the essential oil of the mustard. He further contended that when Haslop went into the defendant's shop he must have known that it was the custom of the people when asking for mustard there to expect to receive such an article as Colman's mustard. He pointed out that the defendant had in his shop but two canisters of mustard, one of which was labelled "Pure mustard," and the other "Colman's mustard," and both of them had been in stock since the beginning of last year. Laura Whalley, the daughter of the defendant, deposed to the man Haslop entering the shop and asking for mustard. She also said that Haslop said he wanted the mustard for analysis, and not for the public analyst, as stated. J. F. B. Whalley, son of the defendant, spoke to supplying Haslop with Colman's mustard under the impression that that was what he required. He corroborated his sister's statement respecting Haslop's declaration. After a short consultation the Bench considered that as the evidence of Haslop varied from that of the two last witnesses as to the actual words used, they were justified in dismissing the case.

PLYMOUTH.

TEETHING POWDERS.—Mr. T. C. Bryan held an inquest on July 15 at Mutley, on the body of Claude Brend, eight months old. The child had suffered from diarrhœa, which its grandmother attributed to teething. A teething powder was procured from a chemist, and administered on Wednesday night, but on Thursday at 5 A.M. the child died. Mr. Edlin, F.R.C.S., stated that he saw the deceased at 6.30 A.M. on Thursday; it had died from exhaustion caused by the diarrhœa. The powder was not the right sort to have given. The chemist stated that the grandmother did not state that the child had diarrhœa. In consequence of this the jury wished Mr. Park to be called, and Mrs. Brend was re-examined in his presence. She stated that she had told him that the child was suffering from diarrhœa, and had been so for two days; and she also thought the child was teething. Mr. Park, chemist, 1 Mutley Plain, stated that the witness had asked for teething powder, and as far as he could remember she had not mentioned diarrhœa. He gave her a compound—James's powder—which he would not have done had he known of the child's illness. The jury returned a verdict in accordance with the medical evidence, and exonerated Mr. Park from all blame.

SHEFFIELD.

FIRE.—On Tuesday a fire broke out at the chemical works of Messrs. Ellison & Mitchell, situated at Swindon, and before it could be subdued considerable damage was done, which is not covered by insurance. It appears that the conflagration arose in a cistern containing 80,000 gallons of oil, which fell, and the oil became ignited by coming into contact with a blacksmith's fire. The works have only recently been opened.

SCOTLAND.

ABERDEEN.

MR. JAMES SIM has opened the shop 24 Bridge Street, styling it "The Aberdeen Pharmacy."

THE LONDON AND PROVINCIAL DRUG STORE (LIMITED) are opening a shop in George Street. They already have an announcement in the window, "Prescriptions dispensed at reduced rates."

SMALL-POX is raging here. Within the past few weeks twenty-four cases have been reported within and several cases have occurred without the city boundary. The authorities trace the outbreak to the importation of rags for our paper manufactories.

EDINBURGH.

MR. GEORGE COWIE, chemist and druggist, Queen Street, has been recognised by the Edinburgh University as a teacher of practical materia medica.

THE EDINBURGH UNIVERSITY has given authority to the professors to admit persons who are not matriculated students of the University to some courses of lectures, not in the course of study for any degree, on payment of a University fee of 5*s*, in addition to the class fee, in each case. The fee used to be 21*s*. for the winter, and 10*s*. 6*d*. for the summer session, and this debarred many chemists' assistants from taking advantage of the University courses of lectures.

ROYAL SOCIETY.—At the meeting of the Edinburgh Royal Society, held on Monday night, it was intimated that the Victoria Jubilee prize, founded by Dr. Gunning, of Rio Janeiro, and of 100 guineas value, had been awarded to Sir William Thomson for a paper on fluid motion.

In the course of the evening Professor Crum Brown made a verbal communication on *Ferric Ferricyanide as a reagent for detecting traces of reducing gases*. He remarked that the test might not be new to some, but he had never seen it published; it was, in short, one of the laboratory tests which might be communicated from one to another, but which generally took some time before they got into text-books. The test was founded on a principle the reverse of the ordinary one. It is well known that the reducing gases, such as sulphurous acid or carbon monoxide, discharge certain colours, but in the new test, instead of discharging the colour of certain prepared chemical papers, a colour is developed. To perform the test dip a piece of bibulous paper in a solution of ferric ferricyanide. An olive-brown colour is imparted to the paper, and this in presence of a reducing gas becomes of a deep blue colour, due to the reduction of the iron salt. The test is a much more delicate one than those which have hitherto been proposed, and may be used to approximately determine the quantity of the reducing gas present.

Other communications were made to the meeting, including one by Mr. Adam Dickie, on the chemical analyses of sea-water from the Clyde sea area. The Chairman, Sheriff Forbes Irvine, closed the session with an address, in which he congratulated the members on the successful character of the meetings.

GREENOCK.

FOUR CHILDREN POISONED.—On Sunday evening a sad case of poisoning, resulting in the death of a boy, occurred here. It appears that the deceased, a boy of eight, had just returned from the country, where he had devoted a good part of his time to digging for and eating "lady's nuts." At the Sunday school he told three of his companions about this, and together after school they went in search of the nuts. They found and ate freely of what they believed to be "lady's nuts," and in the course of the evening the whole of them were seized with vomiting and convulsions, the boy John Nicol dying within a few hours after he had eaten the roots. The other children have, we are informed, entirely recovered.

[A correspondent sends us specimens of the plants. The lady's nuts, or way bread, which the children supposed they were eating is the *Plantago major*. From the fact that stems of *Œnanthe crocata*, destitute of the bulbous roots, were found on the spot where the children enjoyed their feast, it is certain that the root of this plant had been eaten. It appears to grow abundantly in this part, and our correspondent sends us a specimen of it. It is a curious fact that in the "Clydesdale Flora" it is stated that this plant is "considered a virulent poison in most localities, although not so dangerous, according to recent investigation, in Scotland."]

Legal Reports.

THE PHARMACY ACTS AND COMPANIES.

THE SUPREME COURT REVERSES THE SHERIFF'S JUDGMENT.

IN the High Court of Justiciary in Edinburgh, on Wednesday, there came up the appeal of the Leith Depôt (Limited) against a decision of the Sheriff of Edinburgh (Rutherfurd), charging the Depôt with contravention of the Pharmacy Act, 1868. The case, as already reported, originated in a prosecution by Mr. Richard Bremridge, of London, the Registrar under the Pharmacy Acts, 1852 and 1868, against seven persons resident in Edinburgh and Leith, charging them with contravention of the Pharmacy Act of the latter year. There were, as has been reported, several charges; but the first was that on which the whole case turned. The first charge was to the effect that each and all of the seven persons forming the corporation had, in contravention of the 15th clause, announced themselves as chemists and druggists, these persons not having been duly qualified as chemists and druggists under the Act. To this charge an objection, on the ground of relevancy, was taken. The Sheriff repelled this objection. Accordingly the case went to proof. The offence, as thus stated, having been proved, the Sheriff fined the leading person named in the company 5*l*., and each of the others in the modified penalty of 10*s*. It should be added that the company, composed of those seven persons, actually carried on business (as it was proved) as dispensing chemists and druggists in two places in Leith. In each place they had qualified assistants. Against this decision an appeal was taken to the High Court of Justiciary. The questions of law for the opinion of the High Court were:—1. Whether the first charge in the complaint is or is not relevant? And assuming the first query to be answered in the affirmative, 2. Whether the use and exhibition of the title "chemists and druggists" by the appellants, as aforesaid, was or was not a contravention of the 15th section of the Pharmacy Act, 1868?

The judges on the bench on Wednesday were the Lord Justice-Clerk (Moncrieff), Lord Young, and Lord Craighill.

The Dean of the Faculty of Advocates appeared for the appellants—the Leith Depôt (Limited)—and he contended that there was no offence committed against the Pharmacy Act, and that, therefore, the conviction by the Sheriff ought to be set aside. In the course of his arguments he dwelt on the decision of the House of Lords in the case of the Pharmaceutical Society *v.* the Provincial Supply Association, and argued that in that case the decision of the House of Lords was to the effect that the Pharmacy Act could not touch a corporation who carried on the business of a chemist and druggist through a duly qualified assistant.

Lord Young: The contest appears to be between the old chemists who want to keep up the old prices and these companies who want to bring the old prices down.

The Dean of Faculty said that appeared to be so. The result of the Sheriff's decision would be to put down all corporations, or co-operative stores for the sale of medicines, which existed in all large towns. That would be a very great wrong, and quite inconsistent with the decision pronounced by the House of Lords in the case to which he had referred—a case which was tried in 1879. The Lord Chancellor held that prior to this Act corporations could keep open shops for the sale of drugs, and that the Act did not affect those corporations.

Lord Young: Are drugs sold at Whiteley's, in London?

The Dean of Faculty: I don't know. I rather think so.

Lord Young: I think everything in the world is sold there; and does not he sell drugs by a qualified assistant?

The Dean of Faculty, continuing his argument, pointed to the fact that in the House of Lords the case on which he had just founded was decided in favour of the corporation—in other words, it was held that the corporation could keep open shop for the sale of drugs so long as they were dispensed by a qualified assistant or assistants. The Lord Chancellor held that the assistant selling or dispensing the drugs need not be a principal in the company. The danger to the public, he held, which the Act referred to was provided against by the assistant being bound to be a duly qualified assistant. This was the opinion of the Lord Chancellor of England in the case against the London and Provincial Supply Association. It was perfectly lawful, he held, before this Act by means of companies incorporated as joint-stock companies to dispense drugs, and there was nothing in the Act to show that the Legislature had any grounds for assuming that there could be no such companies. And that having been the state of the law, the Lord Chancellor thought it would be wrong for the law to say that it would be illegal for persons to carry on business as chemists and druggists as corporations, although there was no direct reference to such bodies in the Act. Lord Blackburn and Lord Watson concurred. The Dean of Faculty's propositions were these:—The thing done there—in the case complained of to the House of Lords in 1879—was done by a company. The thing done now here in Edinburgh was also done by a company. It was held that the thing done there—in London in 1879—was a lawful act. Therefore, the thing done here in Edinburgh is lawful. In other words, the thing done in both cases is a thing which is not touched at all by the Act of 1868. A corporation cannot possibly qualify to be chemists and druggists; therefore, a corporation cannot possibly be prosecuted under the Act. The corporation carries on its business through qualified assistants. He asked, therefore, could individual members of that corporation be liable for penalties for a thing which was lawful under the Act?

Mr. Graham Murray stated the case for the pursuer—the Registrar under the Pharmacy Acts. His point was that the judgment of the House of Lords above referred to did really affect corporations. The decision in the Queen's Bench, which was appealed to the House of Lords, would have led to the result that no corporation could carry on the business of chemists and druggists, even although every one of its members might be duly qualified; and it was in connection with that view of the matter, and by way of deprecating that result, that the Lord Chancellor and Lord Blackburn expressed themselves as they did in those passages of their opinions which were founded upon by the counsel for the respondents in the present case. The company was sought to be made liable in a penalty for selling poison, although the person by whom the sale was effected, who was himself a partner in the company, was a duly qualified chemist and druggist. That was manifestly a very different case from this, where the prosecutor alleges that not one of the partners possesses the necessary qualification. According to the judgment of the House of Lords, proceedings must be taken not against the company, but against the individual wrong-doer, and that was exactly what the prosecutor had done here. After some further discussion

The Lord Justice-Clerk pronounced his judgment in the case. Fortunately for this Court, he said, the substantial principles involved in this appeal had been the subject of discussion in the House of Lords; and he had formed the opinion—though not without some difficulty—that the principles announced in that judgment in the House of Lords must cover this case, and that, consequently, the conviction now complained of could not be sustained. The Act was a very defective Act, but it was perfectly clear that it never contemplated the possibility that it was illegal for a company or corporation to carry on the business of chemist or druggist, through a duly or thoroughly qualified person or persons as assistant or assistants. It was sufficient under the Act that they carried on the business solely by persons so qualified. He did not think the word "persons" used in the Act applied to a corporation or company, who, in the nature of things, and as corporations, could not qualify as chemists and druggists. That was the necessary result of the limitation of the word "persons" imposed by the judgment of the House of Lords. His lordship therefore ruled that the conviction be set aside as null and void.

Lord Young concurred in this opinion, holding that the judgment of the House of Lords conclusively quashed this case. But he must confess that he was not sorry that the House of Lords had arrived at the conclusion at which they did, and that they had an opportunity now of expressing concurrence in that judgment. It was a matter of great importance to the public that drugs and chemicals should only be dispensed by qualified persons; but he was very doubtful whether any special legislation was necessary to that end. He should have thought that the ordinary competition in that or in any other trade would have secured what the public desired. But assuming that qualification ought to be exacted by the Legislature, there was no reason why there should be such restraint on trade as was implied by the prosecution in this case. The public were interested in this great matter—the getting of drugs or chemicals at reasonable prices. He knew the case of a doctor who had attended a patient for many months. The patient complained to the doctor of the cost of the article which he had prescribed for him. The patient had got the little phial filled repeatedly, and the charge of the chemist each time was 2*s*. The doctor compassionated the poor man, and told him how to go to one chemist for one thing and to another for another. And the result was that the poor man got for threepence what made some dozens of the phials which he had been getting before, and for which he was paying 2*s*. per phial. (Laughter.) It was not unreasonable that we should desire some change in that state of things. There was no grudging due payment for professional skill, but when high charges were extended to practices of the sort he had mentioned it was a different thing. These companies here complained of supplied the public with drugs and chemicals, by duly qualified men, on much more reasonable terms, and against that they were not entitled to place any obstacle—that is, so long as the public were protected against danger, as they certainly were in this case. After quoting from the Lord Chancellor, Lord Blackburn, and Lord Watson, in the House of Lords case, Lord Young held that the public were properly protected as long as, in this case, the corporation or company for the sale of drugs and chemicals conducted its business by and through duly qualified assistants. He did not look upon the trades-union part of the question as one favourable to the public. He looked to the public interest and to the requirements of the Act of Parliament, and he found both were perfectly satisfied in this case. He, therefore, was glad they had an opportunity of quashing or setting aside the conviction here complained of.

Lord Craighill agreed. The conviction was, accordingly, ordered to be "quashed" or set aside.

Great interest was taken in the proceedings by a considerable gathering of chemists and by the general public.

WHAT CONSTITUTES "KNOWN TO THE SELLER."

AT the Manchester County Police-court, on July 14, Walter Smith, chemist, was charged with a breach of the 17th section of the Pharmacy Act. Mr. Crofton, who prosecuted, stated that the defendant was employed in the shop of Mr. J. R. Lateward, chemist and druggist, Oldham Road, Newton-heath, and the offence with which he was charged was non-compliance with the 17th section of the Pharmacy Act, which provided that certain poisons were not to be sold to persons not known to the seller unless introduced by a person known to the seller. On June 20 a woman named Maria Davenport purchased sixpennyworth of vermin-killer, which was a preparation of strychnine, with which she afterwards poisoned herself. After inquiry it was found that the poison had been purchased by Mrs. Davenport from the defendant, who, it was contended, did not know the woman within the meaning of the Act. He knew her by sight only, and there was no introduction of her to the defendant by another person known to him. Mr. Cobbett, who appeared for the defendant, said that it was perfectly true his client did not know the name of the woman to whom he sold the poison, but he had known her as a frequent customer at Mr. Lateward's shop for about twelve months, and also knew that she was the wife of the man who lived at Bagley Fold Farm, though he did not know what his name was. When she purchased the poison Mrs. Davenport gave her correct name, and stated her address as Bagley Fold Farm, whereas at that time she was staying with her mother in Oldham Road. He (Mr. Cobbett) contended that his client really had the knowledge of the purchaser which was required by the Act—the knowledge which enabled him to identify the person who had bought the poison. The Stipendiary asked what was the degree of knowledge that a man must have, for, in his opinion, it was clearly a question of degree. Mr. Crofton said he must know that the entry of the name and address in the book was true. In the present instance the address entered was Bagley Fold Farm, whereas the woman at the time was staying in Oldham Road. Mr. Cobbett said that though the defendant did not know Maria Davenport was her name, he knew the personality. He explained that, even though the woman was at the time staying with her mother, her furniture remained at the farm, of which he believed she was the tenant up to the time of her death. The Stipendiary thought the defendant could fairly say to the Bench that this person was not unknown to him, and the case would be dismissed, but, as they considered the police were justified in bringing the matter forward, the defendant must pay the costs. He should like it to be distinctly understood that the onus was thrown upon the seller of the poison to show that the person to whom it was sold was not unknown to him.

BANKRUPTCY REPORTS.

Re HENRY MARTIN, trading as John Hassall, 64 St. Paul's Churchyard, Sponge, &c., Merchant.

ON July 14, at the London Bankruptcy Court, a meeting was held before Mr. Registrar Hazlitt for the public examination of this debtor, who failed a short time ago with liabilities 10,914*l*. 2*s*. 8*d*., of which 6,153*l*. 2*s*. 4*d*. is expected to rank, and assets 922*l*. 17*s*. 5*d*. In examination by Mr. Aldridge (official solicitor) the debtor stated that he entered into a formal agreement with Mr. Carpenter for partnership in 1882, introducing capital to the amount of 2,000*l*. There was, however, no deed of partnership, it being quite a verbal arrangement, and when the partnership came to an end in 1885, there was no legal dissolution, and it was not gazetted. At the dissolution he (debtor) took over the liabilities and assets of the firm. A number of questions in reference to two mortgages on the property were put and answered, and other details were given. The examination was ordered to be concluded.

HERBERT TAYLOR.

AT the London Bankruptcy Court on Monday, before the Chief Official Receiver, an application was made by Mr. Munns, with the concurrence of various creditors, for the appointment of a manager under the proceedings, and he detailed circumstances which, he submitted, rendered such an appointment desirable. He also intimated that a scheme of arrangement would probably be submitted to the creditors at the first meeting.

The debtor traded as a merchant at 61 Mark Lane and 173 Piccadilly, under the firm of David Taylor & Sons, and a receiving order was recently made.

The liabilities are roughly estimated at 100,000*l*., and the assets 10,000*l*., but of the liabilities 70,000*l*. is expected to run off. In reply to the Official Receiver, the debtor stated that he had large contracts outstanding for the purchase of quinine, gum, and sarsaparilla. Upon large quantities of these commodities the bankers had made advances, and were holding the same to his order for sale upon a good market showing itself. In respect of these contracts remittances were coming due daily, which it was necessary he should use in taking up the bills which were in the hands of the bankers and of third parties. There was also a transaction in sarsaparilla to the amount of about 3,000*l*. or 4,000*l*. The sarsaparilla had been bought on the one hand, and bills given and advances obtained on it on the other, and the money to pay for it was in the hands of third parties waiting to be paid over to take up the sarsaparilla. It was important that the business should be kept together, and for that purpose the appointment of a special manager was necessary. After a long discussion the trustee said that, as it appeared to him, there was no difficulty in the debtor carrying on the business himself, and if he required any legal assistance he could apply to the Official Receiver. Upon the application of Mr. Munns the application was adjourned *sine die*, with liberty to apply. An order was also made allowing the debtor 6*l*. a week out of the estate for his services.

Re COOPER & THIRKELL, trading as F. Cooper & Co., 19 and 21 Queen Victoria Street, Manufacturers of Arsenic, &c.

THE receiving order in this case was made on June 14, and the summary of affairs has now been issued, showing total liabilities 6,809*l*. 19*s*. 9*d*., of which 3,752*l*. 5*s*. 3*d*. is expected to rank, and assets 700*l*. 8*s*. 10*d*. The debtors state that in conjunction with others they formed a firm for the manufacture of arsenic, and for other purposes, and they attribute their failure to their expenses having exceeded their profits, owing to losses by bad debts and other causes. The public examination is fixed for August 3.

J. J. WHATLEY.

A MEETING was held at the London Bankruptcy Court on Tuesday before Mr. Registrar John Linklater, for the public examination of John James Whatley, colonial broker, of Fen Court, Fenchurch Street, a member of the firm of Whatley & Co. The bankrupt's disappearance, after his return from a trip in his steam-yacht, was recently reported; but at the first meeting it was stated that he had absconded, and resolutions were passed winding up the estate in bankruptcy, with Mr. Arthur Cooper, C.A., as trustee of the estate. Upon the case being called the official solicitor stated that the bankrupt had absconded and had filed no accounts. His Honour adjourned the public examination *sine die*.

FRENCH PHARMACEUTICAL NEWS.

A GALLANT PHARMACIST.—M. Martial, an assistant in M. Petit's pharmacy, which faces what was the Opera Comique, has been awarded a gold medal for meritorious conduct during the late theatre fire.

ENCOURAGING SCIENTIFIC RESEARCHES.—The Academy of Sciences has been authorised to accept a bequest of 40,000f., made by M. Martin-Damourette, for the purpose of founding a yearly or biennial prize to be awarded for researches on therapeutic physiology.

POETICAL PHARMACISTS.—M. C. Bonnet, a Paris pharmacist, has obtained a gilt-silver medal for poetry read at the floral games lately held at Sceaux. M. Nicot, also a pharmacist here, and a contributor to the *Nouveaux Remèdes*, was on the same occasion awarded a bronze medal. The poetry of the day was mostly in honour of the Sunny South, and written in the old Provençal tongue.

PASTEUR was, on July 18, elected a perpetual secretary of the Academy of Sciences, for the physical and natural sciences division, in place of the late Dr. Vulpian. The academy has two perpetual secretaries, whose influence is very great, as they prepare the work of the sittings, read the communications, and to a certain extent direct the proceedings. The other secretary is M. Bertrand, for the mathematical sciences division.

PRIZES TO CHEMISTS AND PHYSICISTS.—The French Society of Photography offers the following prizes:—One of 2,000f., presented by the Minister of Public Instruction, for the improvement of objectives; 1,000f., presented by M. Davanne, for a greater sensitiveness of plates; and 500f., by M. Gaillard, for the best pellicular process. The memoirs must be sent to the society before the end of December, 1888.

THE WATER DRUNK BY SOME PARISIANS.—During the past year the following dead animals were fished out of the Seine within the city walls:—2,021 dogs, 977 cats, 2,257 rats, 507 chickens and ducks, 3,066 kilos. of butchers' refuse, 210 rabbits or hares, 10 sheep, 2 colts, 71 pigs, 49 geese and turkeys, 10 calves and goats, 3 monkeys, 1 snake, 2 squirrels, 3 porcupines, 1 parrot, 609 assorted birds, 3 foxes, 130 pigeons and partridges, 3 hedgehogs, 8 peacocks, and 1 seal. This is, perhaps, barely meat enough for substantial broth, but too much for plain drink.

ARTIFICIAL PRODUCTION OF PILOCARPINE.—Messrs. E. Hardy and G. Calmels have succeeded in effecting the synthesis of pilocarpine. In a paper read before the Academy of Sciences, they gave a full description of their process, which consists of two steps, first the transformation of pyridino-lactic acid into pilocarpidine, and secondly, the transformation of pilocarpidine into pilocarpine. As the method is complicated and must be expensive, since gold chloride is one of the chemicals employed, the new synthesis is no doubt important scientifically, but cannot be said to be a practical process.

THE MANCHESTER EXHIBITION.

Third Notice.

THE tanning-material industry is not so well represented at Manchester as might have been expected from so important a branch. In this section Messrs. Gridley & Co., of Bishopsgate Avenue, London, have a very good display of isinglass, the most prominent varieties of which article are, however, used for purposes entirely foreign to tanning. Thus the fine cut Brazil and Russian isinglass is employed for culinary purposes, such as thickening soup, and imparting consistency to blancmange, and the latter variety also in medicine. Messrs. Jos. Taylor & Sons, Bury, Lancashire, exhibit various tanning extracts and such crude substances as divi divi, sumach, myrabolanes, &c. A case of gelatines and glues in cake form sent by Messrs. Thomas R. Bindley & Son, of Smethwick, who make a specialty of ground glue for painting and sizing, together with two more exhibits of leather tanned by the application of oak bark and valonia, complete the section.

In strong contrast to the meagre appearance of the tanning division stands the important display of alkalis, acids, and salts, which reflects credit even upon so important a centre of these trades as Manchester. Messrs. John Riley & Sons, of Hapton Chemical Works, near Accrington, have a large stand, very attractively arranged, and in which beautiful crowns of copperas, borax, and potassium bichromate crystals vie with brilliant samples of soda products, yellow and red prussiate of potassium, and chloride of manganese. The manufacture of sulphuric acid is one of the branches to which Messrs. Riley devote particular attention, and in order to obtain the acid in the highest possible state of purity they concentrate it in platinum vessels instead of in leaden chambers. In order to render the refined soda ash, which they also manufacture, free from impurity, the firm use mechanical furnaces heated with gas instead of coal.

Messrs. Gaskell, Deacon & Co., of Widnes, are experienced exhibitors, and know how to arrange a selection of otherwise colourless articles in an attractive style The soda crystals in iceberg shape which adorn the centre of their show-case have a very pretty effect. Messrs. Gaskell, Deacon & Co. make a specialty of their "crystal carbonate," which is a form of carbonate of soda manufactured under a recent process. This substance contains, according to analysis, 82 per cent. soda carbonate, 17·25 per cent. water, 0·25 per cent. of sodium chloride, and a trace of sulphate of soda. It is recommended as a washing soda for use in tropical climates because of its extremely high melting point, and as a preventive of boiler incrustation. In solubility it surpasses soda crystals and possesses the remarkable property of giving out heat during solution just as caustic soda does. Among other products of Messrs. Gaskell, Deacon & Co.'s works shown at the Exhibition may be named bleaching powder, manufactured by the Deacon process, in which the gaseous hydrochloric acid is taken direct from the sulphate of soda furnace into an apparatus where it is heated in contact with air, and a salt of copper, chlorine and water being produced. In Deacon's alkali process the impure solution of soda is treated with carbonic acid and air in blowing vessels, and exposed to an elevated temperature in "coil" furnaces, by which treatment silica, alumina, and the iron of the ferro-cyanogen are precipitated. From this purified solution after filtration various forms of pure carbonate of soda, such as "refined alkali" and crystal carbonate, may be obtained.

Messrs. Brunner, Mond & Co. (Limited), of Northwich, Cheshire, also have a large show of soda products, caustic soda being the principal one, while fine samples are shown of carbonate and bicarbonate of soda, including pure alkali, bleacher's ash, and other varieties, and soda crystals. A smaller stand, but more pleasing to the eye, by reason of its greater variety of colour, is that enclosing the exhibits of the firm of Wigg Bros. & Steele, Runcorn. This house provides red and purple 90 per cent. oxide of iron for rouge making, and for use in the printed goods trades. The top of the pyramid in which their exhibits are arranged is occupied by a vase of powdered red oxide of iron. This firm also exhibit iron ore in its various stages of manufacture, salt cake, acids, and bleaching powder. Messrs. Tennants & Co., 49 Faulkner Street, Manchester, have a good show. This house is one of the oldest chemical manufacturers in Manchester. It is announced on the show-case that Mr. E. P. Thomson originally started the business in 1815, and was succeeded by the Tennants family in 1837. Among the principal exhibits shown by Messrs. Tennants & Co. are Epsom and glauber salts, sulphuric, hydrochloric and nitric acids, various chlorides, bisulphites, and bichromates, and red and yellow prussiate of potash. Messrs. Jos. C. Gamble & Son, of St. Helens, have a rather smaller exhibit than their immediate neighbours. Their samples illustrate the various stages in the process of manufacture of soda ash, chlorate of potash, chlorate of soda, caustic soda cream, bleaching powder, &c.

Messrs. Jas. Muspratt & Sons, the famous Liverpool firm, in their extensive exhibit show sulphuric acid, brown and rectified, hydrochloric acid, and various soda, magnesite, and barium products. Among the products of alkali manufacture, according to the Leblanc system, which is followed by this firm, are high-test carbonated soda ash, cream, and white caustic soda, the former 60 to 62, and the latter 60 to 72 per cent.; yellow crystals of recovered sulphur, green soda manganate, and high-test bleaching powder. The products of Muspratt & Eschelmann's chlorate process are also shown in this exhibit, and embrace a fine sample of magnesium chloride as well as chlorate of potash, in crystals and powder, and chlorate of soda.

Mr. John Thom, of Birkacre, Chorley, shows an interesting model of the apparatus which in 1838 and 1839 was used at Turnbull & Ramsay's works in Glasgow for making carbonate of soda from common salt and bicarbonate of ammonia, a process discovered fifty years ago by the John Thom of the period, who was employed at the Glasgow manufactory. The plant consists of a tub in which the materials for producing soda carbonate were mixed, of a vessel in which the mixture was washed by percolation, a wooden hand-press to squeeze the precipitate from the mixture, dissolving and crystallising pans, retorts for the preparation of ammonia carbonate, and an apparatus for draining soda crystals. Altogether this is a very interesting exhibit.

Messrs. Bell Brothers (Limited), of Middleshorough, have also an interesting though not very showy exhibit. It chiefly illustrates the manufacture of barium products, and includes barytes, ordinary or grey, and white refined hydrate of barium. The Port Clarence salt industry is represented in this exhibit by different samples of salt, and there are also specimens of the soil of the Tees district, demonstrating the red sandstone strata, stretching from 90 to 1,100 feet depth, the gypsum deposits at 1,100 to 1,110 feet, and the layers of salt 1,130 to 1,200 feet deep.

Messrs. J. M. Collett & Co., of Gloucester, are well represented by specimens of various sulphites and bisulphites, and of sulphurous acid. The firm appear to have a large trade in isinglass, of which they show samples of nearly all varieties. The lower part of their show-case is filled with shilling bottles of a "Universal" preservative for meat, jam, &c., which should find a large sale in this tropical weather. Messrs. C. B. Cullerne & Co., 36 Cobden Street, Liverpool, by a nicely arranged exhibit and an unstinted distribution of literature, call attention to their specialities, of which isinglass is the principal one. This commodity they import in its crude state from the East and West Indies, China, Russia, &c., and prepare it for the use of brewers. Sulphurous acid for bleaching isinglass and bisulphite of lime for cleansing brewing plant and preventing acetous fermentation, also come within the range of Messrs. Cullerne's business. Messrs. A. G. Kurz & Co., of the Sutton Alkali Works, St. Helens, have the usual exhibits of alkali manufacturers, viz., soda ash, caustic soda, soda crystals, bleaching powder, &c., while Mr. J. H. Podgett, of Northwich, who claims to sell over 20,000 tons of salt annually, exhibits that useful commodity in many forms and shapes, from best double stored handed squares, whatever that may mean, to common ground rock salt.

The next stand is devoted to an illustration of the manufacture of vinegar by modern and obsolete processes. Messrs. R. N. Pott & Co., of 22 Southwark Bridge Road, London, to whom this exhibit belongs, are well qualified to show the advance which has been made in vinegar manufacture, for their firm is one of the oldest in the branch, having been established in 1641. It is a pity that not more of the large manufacturing firms have seen fit to add models of plant, old or modern, to their exhibits, for there can be no doubt that such models are calculated to attract attention to an exhibit more than anything else. Messrs. Pott also show various samples of vinegars and an assortment of spices which enter into the manufacture.

A beautifully arranged stand is that of Messrs. Anthony K. Kaye & Son, of Huddersfield, chemical manufacturers, who in addition to a large variety of dyeing materials, such as aniline dyes, indigo, and dyewood extracts, have a good show of general drysalteries. An assortment of toilet soaps and samples of cotton hanks dyed with indigo complete a particularly effective exhibit. The immense column of alum, about 13 feet in height and weighing over 10 tons, exhibited by Messrs. Peter Spence & Sons, Manchester, attracts attention from afar. An opening has been cut into the crystal through which the interior can be inspected, and if the number of visitors who have a peep through this aperture could be ascertained, very likely it would be found almost to equal the number of visitors to the Exhibition. The column is by this time well accustomed to be stared at by the multitudes passing beneath it, for it has made the rounds of exhibitions, and will probably continue to attract thousands at future shows. A more varied exhibit of alum is somewhat cast in the shade by the giant, but it well repays inspection. Here are shown sulphate of alumina, which for many purposes replaces alum, for instance in the preparation of dyer's liquors and for paper printing, sulphite of ammonia, a by-product in the manufacture of alum, which is largely exported to Germany for feeding sugar beet, and to the West Indies as a sugar-cane manure, and alpersil, in large grey coloured blocks, which is recommended for purifying water. This material is the cheapest known source of soluble alumina for purifying town sewage, and as a proof how well it performs its functions several vessels are exhibited, containing Irwell sewage and water before and after purification. Although alum is largely used in medicine its chief employment is for dyeing purposes, and it is worthy of note that both these uses were known in very early times, for as early as the 6th century B.C. the Phœnicians used alum in the preparation of the coloured fabrics for which they were famous, while the Greeks employed it, under the name of *stypteria*, for various pharmaceutical purposes. The purest alum is required in Turkish red dyeing, and of this variety Messrs. Spence & Co. exhibit a separate set of samples.

The Widnes Alkali Company (Limited), of Widnes, which boasts the possession of the three largest black ash furnaces in the world, one being 30 feet long by 12½ feet diameter, exhibit white caustic soda, chlorate of potash, ground and in crystal form, manganate of soda, used for disinfecting purposes, permanganate of soda, bleaching powder, and other allied chemicals. The use of caustic soda has made enormous strides during the last twenty years or so; for while in 1865 the total output did not average over 100 tons per week, it has now reached about 3,000 tons weekly. The principal centres of the export trade of caustic soda are Liverpool and Newcastle-on-Tyne. From these two ports 37,440 tons were shipped in 1885, an average of 726 tons weekly. The principal users of caustic soda are paper manufacturers and soap-makers. Chlorate of potash, besides its medicinal applications, enters into the composition of fireworks and lucifer matches. Manganate and permanganate of soda are among the most valuable disinfectants known, having superseded bleaching powder for that purpose. The latter chemical is now mainly used by cloth-bleachers and paper-makers. The following figures will convey some idea of the magnitude of the British chemical trade: In 1886 the total weight of caustic soda produced was 153,884 tons, and of bleaching powder 136,234 tons. In the manufacture of these two articles alone 1,423,000 tons of fuel were used, while 394,000 tons pyrites, 713,000 tons salt, 234,000 tons lime, and 134,000 tons limestone were required in the process. The Greenbank Alkali Works (Limited), of St. Helen's, exhibit specimens of double refined powdered 98 per cent. caustic soda for use of dyers and calico printers, as well as for making hard soap and preventing scale in steam boilers; 76 per cent. solid caustic soda, for soap-makers and seed-crushers; and caustic potash, for woollen-manufacturers making their own soap. Bleaching powder, chlorate of potash and red oxide of iron are also shown in this case. Messrs. R. & J. Garroway, of the Netherfield Chemical Works, Glasgow, show as centre piece a model of their manufactory, round which are grouped samples of their principal manufactures and the crude materials from which these are derived. Thus the brimstone, as imported from Sicily, is shown side by side with the roll sulphur which is prepared from it at Glasgow. Sulphuric and oxalic acids, with an intersting model showing the process of preparing the former, various tin products, Epsom and glauber salts, and boracic acid and its products are the main features of this exhibit. Messrs. W. G. Pursell & Co., of Leith, exhibit borax in natural, simple, and compound form, suitable for manufacturing, pharmaceutical, and domestic purposes. The firm appear to make a specialty of a borax preparation in powder form for the preservation of fish and other articles of food. Passing by a stand of beautiful green copperas crystals in grotto shape, sent in by the trustees of the late Jas. Buckley, of 108 Higher Ardwick, Manchester, we arrive at the extensive exhibit of Messrs. H. D. Pochin & Co. (Limited), of Salford, which is put up in splendid style. Messrs. Pochin manufacture a large variety of chemicals, but the object of their Manchester exhibit appears principally to show their chemicals for the use of calico printers and paper-makers. Among their principal exhibits are china clay, the base of aluminous cake and sulphate of alumina, and which is found in Cornwall as a result from the decomposition of felspar in granite. It is in its natural condition pipe clay, but as made artificially is a very pure silicate of alumina. It is used in making pottery, and for stiffening and finishing cloth. Binarseniate of soda is now used by calico printers to replace cow-dung, which was formerly used in the dunging of cloth. The acetate of alumina which the firm manufacture is employed for fixing aniline colours on, while the refined rosin exhibited is made under a patent taken out by Mr. H. D. Pochin in connection with the late Mr. Hunt. By this patent common black rosin is distilled and deprived completely of its colouring matter—a process demonstrating the unjustness of the belief previously entertained that resin was incapable of distillation without decomposition.

Aluminous cake, of which various specimens are shown, was first manufactured by Mr. H. D. Pochin in 1855, by decomposing Kaolin or China clay, and is now extensively used by paper-makers all over the world. Sulphate of alumina, a product of aluminous cake, enters into the manufacture of tissue papers and the best qualities of writing papers. It may here be explained that all paper would be blotting paper unless it was partially waterproofed by precipitating with the pulp in the process of manufacture resin obtained from a resin soap, and then mixed with either aluminous cake or sulphate of alumina, the waterproofing material being, in the case of aluminous cake, hydrated silica, alumina, and resin, and in the case of sulphate of alumina resin and alumina alone. The alkali division of the chemical section is completed by the exhibit of the Eureka Salt Manufacturing Company (Limited), of Northwich, who show samples of rock-salt and specimens of natural brine from their Cheshire works. In that country salt has been produced ever since the time of the Romans, and the output previous to the present season of depression amounted to nearly two millions of tons in the year, about half of which is exported to Canada, America, Africa, Europe, India, and the other colonies. A large part of the revenue of India is collected on Cheshire salt imported into Calcutta.

THE RELATIVE MARKET VALUE of the different parts of the human body has been calculated by a German mathematician with a view to fix a basis for the award of damages in case of disablement. The loss of both eyes, arms, legs, hands or feet is put at 100, that of the right hand at 60, of a foot at 50, of the left hand at 40, the right thumb at 33⅓, an eye at 22, the left thumb or right forefinger at 14, the left forefinger at 8, and any other finger of the left hand at 4 per cent.

PLANTS PECULIAR TO CERTAIN SOILS.—Dr. R. W. Raymond lately called attention to the reputed connection between certain plants and the metals in the underlying soil. Thus the zinc violet, or Galmeiveilchen—sometimes regarded as a distinct species, under the name of *Viola calaminaria*—points out the hills containing calamine, or zinc ore, in Rhenish Prussia or Belgium. The lead plant (*Amorpha canescens*) is believed by American miners to grow only in localities containing galena, and *Eriogonum ovalifolium* is probably destined to be known in the West as the silver plant.

AUSTRALASIAN PHARMACY.

THE writers of the following letters are chemists in business in the colonies named. Both express their willingness to correspond with any one who wishes further information, and we have permission to give their full addresses to inquirers.

North Queensland.

Perhaps a few remarks from a chemist residing in that part of Australia which is within the tropics may prove interesting to some of the numerous readers of The Chemist and Druggist. A very few years ago the spot upon which my pharmacy stands was a portion of the happy hunting-grounds of the saurian monster, while "great snakes" held high revelry in the immediate neighbourhood. Nowadays, however, we are surrounded with evidences of civilisation, and our meditations are disturbed by nothing more terrible than the persevering mosquito, the gigantic tarantula, and the all-devouring cockroach, which here attains herculean proportions, and smiles at insect powder and even more powerful insecticides.

Ours is a warm climate. I have seldom seen the thermometer below 70° or higher than 105° F. in the shade. During six months of the year 90° to 100° is registered, and 70° to 80° may be given as something like the temperature during our coolest season.

December and January are considered the hottest months, and the wet season usually prevails during February and March, and then one constantly feels as if he had just indulged in a hot bath made sticky with Judson's gum. But we have this sad consolation—the hotter the weather the more illness there is, and consequently the more business. During the torrid season, prescriptions come rolling in, and perspiring pharmacists, devoid of coat and waistcoat, fix up mixtures, pills, and powders in double-quick time. Then, too, ointments may be sent out in bottles, and the liq. ammon. fort. bottle becomes a fountain of life.

None of our medical men dispense physic, so that chemists get a good number of prescriptions, and do not find it necessary to push counter-prescribing beyond its proper limits. As might be supposed, dispensing is the most profitable part of our business, 3*s*. 6*d*. and 4*s*. 6*d*. being about the average prices obtained for 6 and 8 oz. mixtures respectively. Friendly societies are, however, very numerous and well patronised by the working-men, and their medicines being supplied by contract something like 50 per cent. has to be knocked off the ordinary dispensing prices for their benefit.

We do a good trade in patents, and articles marked 1*s*. 1½*d*. sell at 1*s* 6*d*., while 2*s*. 9*d*. means 3*s*. 6*d*., and 4*s*. 6*d*. is converted into 5*s*. 6*d*. American nostrums also sell freely, and these are generally higher priced than the usual run of English proprietary articles, but allow about the same percentage of profit.

We who live 1,000 miles away from the nearest wholesale drug house find that it requires a wise judgment to avoid being out of stock of any of our numerous wares on the one hand and overstocking on the other. Drugs and druggists' sundries all yield fair profits up to the present time, but I cannot hope that this will always be the case. A large proportion of the patent-medicine trade is in the hands of general store-keepers, who get through very large quantities of the well-known lines at prices which tend to cut down profits very considerably; nor do they stop here, but there being no "Sale of Poisons" Act in this colony, squatters who require strychnine for poisoning wild animals can purchase a dozen ounces at a grocery store without any questions being asked.

Profits are large—and so are the expenses. Like all the other colonies we have a protective tariff, and all imported goods are subject to duty. The bulk of druggists' goods are charged 7½ per cent. *ad valorem*, but a few are singled out for special duties. "Spirits" pay 12*s*. per proof gallon, and all medicinal tinctures, spirituous essences, and perfumes a like amount. Methylated spirit has 5*s*. per gallon added to its cost, and saltpetre, spices, lozenges, and a few other commodities are specially noticed, while opium pays 20*s*. per lb., which makes the wholesale value of that article about 42*s*., or, rather, that is what the retail druggist has to pay for it. When these duties are added to the heavy shipping charges it will be seen that we do not purchase our goods on such favourable terms as are quoted in a London price-list.

Rent and wages are heavy items of expenditure. A shop suitable for a pharmacy lets at from 130*l*. to 250*l*. per annum, according to position, &c. The shops are generally one-storey buildings without any living accommodation attached. To this rent must be added that of a dwelling-house, and a five to six roomed shanty rents at 50*l*. to 80*l*. A competent assistant receives 4*l*. weekly, and a small boy turns up his nose at anything under 10*s*. All necessaries (except butcher meat) are much dearer than in England, and the same remark applies in a still greater degree to luxuries. In short, generally speaking, 100*l*. will go as far in the old country as 200*l*. in North Queensland. Only one town in the Northern district is at present supplied with gas, and residents of that favoured spot (Townsville) pay 15*s*. per 1,000 feet for the luxury.

Let not any overworked English assistant dream of short hours in Australia. The labourer and the bricklayer work eight hours daily, the druggist five or six hours longer, with Sunday work in addition—on the whole about eighty-six hours per week.

For some time past we have been suffering from the effects of the universal depression in trade, and the result is that the amount of booking has increased largely, and bad debts have become alarmingly numerous.

It is not a very difficult matter to obtain a certificate of qualification from the colonial pharmaceutical societies, but it is no longer a mere "matter of form." We have here a Pharmacy Board and examiners who are not to be satisfied so easily as were their medical predecessors, and at the first examination under the auspices of the newly-fledged Board out of twenty candidates who presented themselves no less than seventeen failed. Each colony has its own pharmaceutical society, each appearing to hold its neighbour in contempt; at any rate, each refuses to recognise certificates granted by the society of any other colony, though they all allow that the English Minor certificate is sufficient for any part of Australasia.

In conclusion, let me congratulate the proprietors of The Chemist and Druggist on the success which has attended the recent advance of that journal from a monthly to a weekly publication, and it is to be hoped that its offspring, *The Chemist and Druggist of Australasia* (which shows plenty of life already, and bids fair to become as highly interesting and useful as its parent), will follow suit at no very distant period.

North Queensland.
Wallaby. (117/39.)

P.S.—Since the above was written I have read the letter in your issue of March 12, signed "Ora et Labora" (a Queensland chemist), and another in the next week's journal from Mr. C. Saunders, of Highgate. I do not know "Ora et Labora," but I gather from his remarks that he lives in the southern portion of this colony—hundreds of miles south of this. He speaks of climatic advantages. Here (although in the same colony) the climate is the greatest disadvantage we have to contend with. The really serious matter with us is the depression in trade; but I believe we have seen the worst, and North Queensland is bound to go ahead. Its mineral wealth is enormous, and in a few years it will, I believe, be the greatest precious-metal producing country in the world.

Tasmania.

Sir,—I notice in your issue of March 12 last a letter entitled "Experiences in Queensland," signed "Ora et Labora," and I feel I cannot let this epistle pass without trying to remove some of the erroneous impressions which your correspondent must necessarily create with regard to the colonies generally; for it would be a great pity if your readers should carry away the idea that "Ora et Labora's" view of the case represents the feelings of anything but a small minority of the chemists of the colonies, and especially of those who have left the mother county to better their fortunes in the Australias.

To set my own case against his. I came out to the colonies between four and five years ago, and first landed at Sydney, where I was struck at once with the prosperous appearance of everyone, and the English-like and solid look of the buildings, for which I was quite unprepared. My plan was to go on to Tasmania; but had I wished to remain in Sydney, I feel sure that I could have done well there; and, in fact, many pressed me strongly to remain, saying, "We've plenty of scope for anyone who will work." Just to see what I might expect, I asked about situations, and found that if I liked to stay I could at once obtain a situation at 4*l.* a week. I was then just 28, and had the Minor and Apothecaries' Hall certificates, which I found would at once frank me into a good situation. However, as my mind was made up, after a short stay I came on to Tasmania, and readily obtained a situation nearly equal to the one I declined in Sydney. Since then I have had none of the experiences of "Ora et Labora," for in less than five years I am in possession of a really good business, which I worked up from nothing. I have lived in the two largest centres of population in Tasmania, and having always kept my eyes upon new arrivals, have found that, if steady and industrious, they were bound to get on. I do not wish to cast any reflection upon "Ora et Labora," but I think he has made a mistake in going to a small bush town in a mining district when there are openings in larger towns (especially in the more largely-populated colonies) for enterprising men. I also set against his letter the one published in your journal a week or two before from Melbourne *re* homœopathic chemists there, the truth of which I can vouch for. I have no doubt that a dozen homœopathic assistants would be billeted safely in less than a fortnight from arrival in Victoria alone, and at good salaries too. Of course there are drawbacks in colonial life. We miss at first our home, our friends, our English mode of living, &c.; but I find that I can get anything I want for money, and I have all I can wish for—when you double and treble your income you can afford more for luxuries. The objection against the climate applies solely to Queensland, which is very hot; in Victoria and Tasmania (especially the latter) the climate is simply lovely, and as nearly perfection as it is possible to be. In the latter colony it is like the Isle of Wight, with a dash of the South of France thrown in, and glorious scenery; sometimes we are months without rain, except an occasional gentle shower to keep the country green. As to refinements and society—well, we have no titled and wealthy aristocracy, and we don't miss them; but I am sure a chemist has a better status here than in England, and mixes with the best society the colony affords. Our amusements are plentiful, consisting of good music (indoor concerts in winter, open-air concerts by military bands in the summer), good lectures, good dramatic representations, railway excursions, yachting, boating, &c., also beautiful walks and drives amongst lovely scenery, and, in short, as much, or more, pleasure can be had than we can find time for, since, as I said before, we have to *work*. Our ladies are as well dressed as those at home, as good looking, and as well educated. The exception would be to find one who could not play the piano, and even draw and paint a little. In Hobart we have a theatre (a good one too), racecourse, debating societies, cricket, football, and bicycling clubs, musical societies (who perform oratorios, cantatas, operas, &c.), amateur dramatic clubs, free library with over 10,000 volumes, and museum. At Launceston, nearly all the above, including a new museum and art gallery now being built. At Hobart we have two good cathedrals (Protestant and Roman Catholic), and Launceston possesses several new and handsome churches, so I think we lack not one of those things "Ora et Labora" so bitterly complains of, while our schools are equal from an educational point of view to any grammar school or ladies' college in a medium-sized town in England; and what more can a chemist want for his children? All these advantages are obtainable in little Tasmania, and of course even more and on a larger scale is enjoyed in colonies like New South Wales and Victoria. Competition with storekeepers is a sore point in some of the colonies, I know, but we do not hear of chemists suffering as they did in England when I left, and which decided me in emigrating. In Tasmania we have an Act of Parliament—short, yet sweet—which says that no one but a chemist shall sell medicines of any kind except he is two miles from a registered chemist, and this extends even to Epsom salts and siedlitz powders. I quote you a few prices we get (without grumbling):—All patent medicines—1*s.* 1½*d.* charged 1*s.* 6*d.*; 2*s.* 9*d.*, 3*s.* 6*d.* (even Eno's!); 4*s.* 6*d.*, 6*s.*, &c. Mixtures—4 oz., 2*s.*; 6 oz., 2*s.* 6*d.*; 8 oz., 3*s.* to 3*s.* 6*d.* (average prices). Pills—1*s.* to 1*s.* 6*d.* dozen. Ointments—1*s.* to 1*s.* 6*d.* oz. (in pot). B. P. tinctures—1*s.* to 1*s.* 6*d.* oz., and so on. Our goods cost us 25 per cent. to 30 per cent. on English list prices, if imported direct. I hope you will not think I am robbing you of too much space, but I feel that the colonies should not be misrepresented as your correspondent would have them, when (as in my own case and many more) people often bless the day they had pluck enough to take ship for these far-off shores.

Mr. C. Saunders, in his letter published March 19, has, I believe, exactly hit the mark, and I was very pleased to see such a letter from an English pharmacist; but unfortunately many will have taken it for granted that pharmaceutical enterprise with the colonies is already "played out," and take the little Queensland mining-town for a sample of the rest of Australasia. I am, sir, yours, &c.,

Tasmania, May 11. EMIGRANT. (117/8.)

[A second letter from "Ora et Labora" is printed on page 106 of this issue.]

QUEENSLAND PLANTS.

DR. T. L. BANCROFT has made a study of certain plants indigenous to this colony, and resulting therefrom several interesting papers were recently communicated to the Royal Society of the colony. The following are brief abstracts of these papers:—

Saponin from *Acacia delibrata* (A. Cunn.). The author happening to bite a seed pod from a tree of this acacia, found that it had not the usual astringent taste of an acacia, but a disagreeable acrid one. On investigating the matter, he found that this peculiar character was due to the presence of a glucoside, which separated out in a dirty white noncrystalline state. A thorough examination of the substance, both chemically and physiologically, showed it to be similar to *saponin*, and the author has no doubt that it is identical with it.

Cryptocarya Australis.—This plant (N. O. Laurineæ) is a small tree which grows abundantly about Brisbane. Its bark has a very persistently bitter taste, and is of a poisonous nature, its toxic action being due to the presence of an alkaloid, which can be separated as a colourless crystalline body. This alkaloid is intensely bitter, like the bark itself. Warm-blooded animals to which it is administered exhibit at first respiratory difficulty, soon ending in asphyxial convulsions and death.

Daphnandra repandula.—Dr. Bancroft discovered a new species of daphnandra while located on Johnstone River, and the above name has been given to it. He has since examined the bark of the tree, with a view to ascertain its chemical constituents and physiological action. When the bark is first removed from the tree its inner surface has a yellow colour, and remains free from microscopic organisms when kept. The extract, obtained by treating the bark with an aqueous menstruum, is remarkably rich in alkaloids. The alkaloids are all colourless, and crystalline when pure, as are also their salts. The active one can be easily separated from them, being soluble in water. Experiments with this show that in the frog at least its poisonous effect is chiefly due to its action on the motor ganglia of the heart—an action which is carefully described. To some extent it is antagonistic to strychnia. In the case of warm-blooded animals it causes asphyxial convulsions of a non-violent character. Probably the most remarkable point about daphnandra bark is its property of retarding the development of septic organisms, such as bacteria in beef infusion. It also deodorises putrid meat and checks the growth of the yeast plant, and kills some water-plants. Daphnandra micrantha, *Benth*, a shrub growing in the neighbourhood of Brisbane, contains a similar active principle.

BLEACHING POWDER CASKS.—Chemical manufacturers at home should pay attention to the casks used for bleaching-powder. The bark "Irvine," recently discharged at Rockhampton, had a cargo consisting chiefly of this commodity. The casks were so rotten that in some cases they fell to pieces while being handled, and when the lower tiers were reached the workmen could not stay in the hold many minutes at a time. Had the casks got a coat of bitumen before the bleaching-powder was packed in them, this undesirable result would not have happened.

CEYLON PHARMACY.

"IT never rains but it pours" is especially true so far as Ceylon is concerned. We have the monsoon upon us, and soon may it be over! Torrents of rain and a dead man in the waterpipes gave a lot of people—water-drinkers especially—fever, and quinine was in great demand. One large firm in the Fort began by advertising Howard's at 2½ rupees per ounce. This formed the subject of an anonymous communication to one of the local papers, in which the writer stated that the quinine sold at this price was Howard's second quality, inasmuch as it bore a black-and-gold label, instead of the ordinary printed one. He said, too, that this second quality was of 50 per cent. less value than the other. Naturally this statement was immediately contradicted by the firm who advertised it, and letters were published from Messrs. Howard & Sons, in which they stated that the quinine was identical in both bottles, the black-and-gold label being used specially for the Indian market.

A day or two afterwards Howard's quinine was advertised by another firm at 2.37 rupees, or about 3*s.* 3*d.* per ounce sterling. There is some excuse for such a low price here, inasmuch as in some parts of the island quinine is as necessary as the air we breathe. Twenty and even thirty grain doses are not at all uncommon, and it is an ordinary practice to shake out a dose into the palm of the hand and eat it.

It is rather remarkable that, considering what a great success cinchona production has been in Ceylon, greater trouble has not been taken with the indiarubber tree. The climate suits the plant, and its juice seems to be as free and as plentiful as in Pará; but none of the planters seem to be able to do anything with it. Some years ago thousands of trees were planted, and are still standing, but rubber does not yet figure in the exports. I am told that the soil and climate are too good, and the foliage gets so heavy as to break down the tree long before the age at which it produces good rubber. But surely if that is really the evil, it might be met by careful lopping and proper supports.

The miscellaneous character of the stock kept by Ceylon chemists would, I am afraid, upset the nerves of some West-end dispensers, and even of country chemists accustomed to a mixed business. Here grocery, stationery, tobacco, fancy goods, hardware, watches, baskets, toys, musical instruments, Chinese and Japanese curios, and perfumery are included in the ordinary stock of a pharmacist.

As an example of the way in which some native doctors pile up the drugs in their prescriptions, I quote a couple from our prescription-book:—

1	
Liq. strychniæ	ʒss.
Ferri et quin. cit.	ʒj.
Sodæ salicylas	ʒij.
Tinct. act. racem.	ʒiij.
Tr. belladonnæ	ʒj.
Inf. calumbæ ad	℥vj.

M. ft. mist.

2	
Tr. ferri perchlor.	ʒij.
Quinæ sulph.	iss.
Acid. sulph. dil.	q.s.
Pot. iodid.	ʒij.
Tr. camph. co.	ʒij.
Liq. arsenicalis	ʒss.
Glycerine	℥j.
Aq. chlorof. ad	℥vj.

M. ft. mist.

These are, however, commonplace; we have had them pile up the agony so that the mixture solidified in the bottle, and at some future date I will try and give a few examples, worse than the two I have transcribed.

I never thoroughly realised that "Time flies" till I came to Ceylon. It is difficult to say why the days seem to go faster here than at home, but probably it is because our hours of business are shorter; we have only twelve hours of daylight out of the twenty-four, and the climate is one long summer. We begin business at 8 A.M., and we close up at 5.30 P.M. We breakfast at 10 A.M., take tiffin at 2 P.M., and dine at 7.30, and, to crown all, we Europeans take it easy. We do the thinking and the coolies do the sweating. Needless to say that one only needs to walk about to be in a bath of perspiration. But we get our screw in rupees, so that we have the glorious uncertainty of never knowing what our salary will amount to at the end of the month.

ISHMAEL.

THE ANNATTO PLANT.

MR. R. T. CLAYTON, United States Consul at Pará, Brazil, in a report dated March 16, states that the specific name *Bixa* of the annatto plant is the native name of the Indians of Darien, and the Brazilian name of the plant is *urucuara*, or plant bearing *urucu*, the latter being the Brazilian name of the pigment annatto. There are probably two species in Brazil, *Bixa orellana* and *Bixa urucurana*, the former being indigenous to the West Indies, but the two are very much alike, and it is hard to say which species is grown in the Amazon Valley; probably both are found, but they resemble each other so closely that to the ordinary observer they are undistinguishable. The species usually considered as producing annatto is *Bixa orellana*. This species is a small tree or large shrub growing from 15 to 25 feet in height, bushy from the root or forming a simple stem. He has never known the plant to be met with growing wild, though it is often many miles from any habitation, but it always marks the site of a former house or plantation. The two species, or perhaps only varieties, grown in Brazil only differ in the colour of the flower and fruit, which in the one are pink and red, respectively, while the other has white flowers and greenish-yellow fruit. The colouring matter seems to be of the same shade in both, and there is no appreciable difference between the two kinds in the quantity produced.

The tree is cultivated in the whole Amazon Valley, and is always seen around the houses of the Indians. It appears to attain a great age, but never becomes very large; the trunks of the largest measure about 18 inches in diameter at the base. Nor is any particular care required in its cultivation, further than to grow them in full sunshine, and to keep the plants when young quite free from weeds. Three years after they are propagated from seeds the plants begin to bloom. Mr. Clayton suggests that the plant might also be propagated by cuttings, a suggestion which seems to have a sound basis, for sometimes the plants grow so freely that they form suckers around the parent, making a dense bush with many stems. In Brazil the fruit matures rapidly after flowering, and is ready to gather in about two months; if gathered as soon as mature, the tree at once makes fresh growth, and flowers and fruits anew. The practice, however, is to allow the fruit to remain on the tree until wanted for use; it dries, and as the capsule does not readily burst the seeds remain long in good condition. Within a few months the tree is again in bloom, and usually one sees flowers and both immature and dry fruit on the tree at the same time. With the most careless culture two full crops can be gathered every year.

The preparation of the pigment is very simple. The seeds are macerated in water until the pulp, which is readily separated, is removed. The water is then passed through a strainer made of strands of palm to remove the seeds and fibre, and is then evaporated in the sun until the mass becomes thick. This mass is then rolled in leaves, producing roll annatto, or it is evaporated to dryness and made into cakes, producing mass annatto. Sometimes the seed as taken from the pod is simply dried for market and forms what is known as *Urucu em grao*.

The pigment is extensively used by the Indians in dyeing the threads of hammocks and by the wild Indians for painting their bodies, they mixing it with turtle-oil or the fat of the *peixe-bois* (manatee). In Pará it is sometimes used to give colour to cooked rice, but it is not so used on the Amazon. An infusion of the leaves drunk hot is considered by the Indians a remedy for jaundice. From inquiries made on behalf of Mr. Clayton, it appears that there is no systematic cultivation of the annatto plant in the Amazon Valley between Pará nnd Iquitos. The tree grows freely near the villages, but the natives do not prepare the annatto unless for their own consumption.

LEMON-JUICE which becomes mouldy, loses part of its citric acid owing to the decomposition of the acid into carbonic acid gas and water, through to the influence of the *saccharomycis mycoderma*. At the same time acetic and formic acids are formed in the juice, as well as other products of fermentation. Fresh lime-juice does not contain these volatile acids.

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An analysis of the water having been made in November, 1886, by Professor Wanklyn, M.R.C.S., corresponding member of the Royal Bavarian Academy of Sciences, Professor of Chemistry, a very important discovery has been made, viz., the presence of Free or Elementary Iodine.

Dr. Wanklyn says—"So far as I am aware, this is the first instance in which free Iodine has been found in appreciable quantity in a natural water. For many years the Woodhall Spa has been celebrated as a valuable remedy in skin diseases. The fact that it is a solution of free Iodine is interesting in this connection, and well worthy of the attention of the medical profession."

The Woodhall Bromo Iodine Water is now being bottled at the Spring by the Sole Agents, BROMLEY & CO., Chemists, 233 High Street, Lincoln, 5 & 6 The Grove, Buxton, and at Woodhall. All communications to be addressed to them at the Spa, Woodhall, Horncastle.

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EDITORIAL NOTES.

COMPANIES AND THE PHARMACY ACT.

THE Supreme Court of Scotland has promptly and unceremoniously disposed of Sheriff Rutherfurd's hopeful interpretation of the Pharmacy Act in regard to companies practising as chemists and druggists. We confess to some partisanship in regard to the important question involved, and our judgment cannot therefore be quite impartial; but it does seem to us that, in respect of judicial tone and temper, there is no comparison between the keen legal analysis of the Act by the sheriff and the eager and undignified dismissal of the suit by the higher bench. Whatever may be the proper interpretation of the law, the point raised was a most important one, not only to the trade, but to the public; and Lord Young had no right to represent it, as he did, as an attempt on the part of the old chemists to keep up prices. As a matter of fact, the question of prices does not come in at all, and Lord Young may be comforted to learn that, whatever may be the ultimate result of the present litigation, there is certain to be sufficient competition among qualified chemists themselves to always protect the public against such imposition as that which he seems to have heard of. The Lord Justice-Clerk admitted to some difficulty in coming to a conclusion, but he did not seem to exercise himself seriously with it. He adopted the simple and easy method of assuming that the House of Lords' decision covered the whole question, and declined to investigate the extension of that question which had been put forward. Lord Young went out of his way to express the pleasure with which he endorsed the judgment of the House of Lords. He evidently holds the opinion that the Pharmacy Act, in confining the title of "chemist and druggist" to qualified persons, was a mistake, and he rejoices at the opportunity which this case affords him of destroying to some extent the effect of that Act. Such expressions of satisfaction from the bench are very unusual, and, to say the least, are undesirable.

We cannot suppose that the Pharmaceutical Council will drop the contest. They have acquired a new vantage-ground from which to make their attack, and they have to combat a condition of things which is perfectly anomalous. The Pharmacy Act of 1868 is logically incompatible with the existence of companies trading as chemists and druggists We have no reason to anticipate weakness on their part, but they will be none the worse for encouragement in the battle from their friends in various parts of the country. They could not have established Sheriff Rutherfurd's view of the law without sooner or later arguing it in the House of Lords, and it matters little whether this is done on their appeal or on that of their opponents.

Company-pharmacy is the dragon in our midst. If the business and profession of pharmacy is to flourish in this country as it does in other lands this enemy must be destroyed. Pharmacy, to be successful, must have a personal basis. Only the educated, skilful, serious, responsible *person* can make pharmacy properly flourish, and it is not correct to say that in the public and medical interests this personal guarantee is sufficiently ensured if companies' businesses are always managed by qualified pharmacists. The servant must always obey his lord, and when the directors are determined to make a dividend the interests of pharmacy may or may not have a fair show.

Parliament resolved, in 1868, that it was desirable in the public interest that persons should give evidence of competence before they could describe themselves as chemists and druggists. The obvious fact that companies, as such, cannot give evidence of competence suggests two opposite conclusions—either that they cannot be chemists and druggists, or that the Pharmacy Act does not apply to them. The English courts took the latter view with the disastrous results so familiar to us all. Sheriff Rutherfurd's judgment, if it had been allowed to stand, would have finished off, supplemented, and completed that judgment by declaring that unqualified persons contemplate and commit a breach of the law when they associate themselves into a company with the object of keeping open shop for the sale of poisons, and when they as a company take to themselves the title of "chemists and druggists."

There are some hundreds of persons throughout the country who have in this way assumed the title. Many of them, no doubt, have only lent their names to a friend, with no idea of illegality, but most of them, it may be presumed, have been well aware that they were assisting in what was, at the best, an evasion of the law. The Scotch High Court, under the present judgment, declares that evasion to be not only justifiable but satisfactory. We want the Pharmaceutical Council to ascertain whether the highest Courts hold that view, and if they do, whether Parliament is of the same opinion. The best way to induce respect for the Pharmacy Act in the public mind is to show that we ourselves respect it, and have resolved to make it respected.

Just lately the public have been invited to take shares in "Henry Hodder & Co. (Limited)," a company registered on July 1, 1887, "to carry on the trade or business of a wholesale and retail chemist and druggist," at Broad Street, Bristol. A capital of 25,000*l*. is asked for, of which 23,000*l*. is to be paid to Mr. Hodder for his leaseholds, goodwill, plant, and stock. The first shareholders in this business include two valuers, two solicitors, two gentlemen, and a licensed victualler; and all these are taking a substantial interest in the enterprise. The first board of directors is to be composed of a mineral-water manufacturer, a gentleman, and a valuer. Mr. Hodder, who is to give his services as manager, is, it is true, a pharmaceutical chemist, but, so far as is at present apparent, he has no other qualified copartner.

It may be desirable in connection with this subject to give particulars of a few other companies now carrying on the trade and business of chemists and druggists in all their fulness. The cases we select are typical ones.

The Sussex Co-operative Drug Company (Limited) was registered on January 6, 1883, the primary object being to acquire the business of wholesale and retail chemist and druggist and mineral-water manufacturer, theretofore carried on by Richard Cobden Cox, at 135 Queen's Road, Brighton. The purchase-money agreed upon for the business was 18,000*l*., of which 10,000*l*. was to be paid in cash, 1,000*l*. in preferred (or A) shares, and 7,000*l*. in deferred (or B) shares. The nominal capital of the company was fixed at 50,000*l*. in 100*l*. shares. Mr. Cox, who appeared in the first two annual returns as the owner of seventy-six shares, held only eight on March 31, 1887. At that date the actual capital of the company was held by twenty-five persons, and consisted of ninety-eight A and seventy B shares, value in all 16,800*l*. The largest shareholder is Mr. Thomas Colman, advertising agent, Stonebridge Park, Willesden, whose holding equals a capital of 5,600*l*. A London wholesale druggist holds 200*l*., and two shareholders at Brighton (probably assistants in the business) hold 200*l*. each, and are described as chemists and druggists. The occupations of the other shareholders are stated as under: stockbroker, terra-cotta manufacturer, accountant, barrister, land surveyor, secretary, assistant-secretary, and bank manager. All the rest are returned as of no occupation.

The Ramsgate Drug Company (Limited) was registered on April 30, 1886, "to carry on the business of chemists, druggists, and patent-medicine proprietors," with a capital of 2,000*l*. in 10*l*. shares. The first shareholders in this concern were Aquilla Waterhouse, "dental surgeon," of Ramsgate, who took eighty shares, and the following, who took one share each:—Jane Lawton, spinster, Dewsbury; Samuel Smith, carpet-weaver, Dewsbury (both of whom signed by a cross); Fletcher Waterhouse, grocer, Dewsbury; Tom Lawton, chemist's assistant, Dewsbury; Walter Lawton, carrier, Dewsbury; and James Lawton, retired blanket-fuller, Dewsbury. Aquilla Waterhouse is described as the manager of the company. At the date of the last return, February 22, 1887, the shareholders are the same as originally named.

The Eastover Stores Association (Limited), Bridgewater, was registered on June 27, 1885, by H. W. J. Ince, of Dudley, "to carry on the trades or businesses of wholesale and retail chemists and druggists and vendors of patent medicines, grocers, drysalters, &c." The company consists of Wm. Bouchier, "dentist," the managing director, who holds 785 shares; Mrs. K. S. Bouchier, 200 shares; Miss E. E. Bouchier; Mr. A. H. Bouchier, carpet warehouseman, of Bristol; Mr. F. C. Bouchier, furniture warehouseman, of Beccles; Mr. Snell, of Archway Road, London, draper, and his wife, each holding one share; F. J. Squire and G. W. Radford, both accountants, of Bridgewater, each hold five shares.

The Southampton Drug Company (Limited) was registered on May 26, 1882, "to purchase and carry on the business of chemists and druggists, perfumers, and patent-medicine vendors." The nominal capital of the company was fixed at 10,000*l*. in 1*l*. shares. The last return of shareholders in this company is dated April 13, 1886. It shows that William Day, 153 High Street, Southampton, who is described first as gentleman, and afterwards as secretary, owns 5,995 of the 6,000 shares taken up. The other shareholders include a farmer, a brick manufacturer, a provision merchant, and a yeoman, all in Gloucestershire, and a currier at Hereford. There was also at first a shareholder named E. T. Pritchard, described first as a gentleman, and subsequently as a doctor at Edinburgh. This gentleman held 3,000 shares, which appear to have been transferred to William Day when Mr. Pritchard removed to China. With this exception the shareholders are the same as when the company was formed. The articles of association provide that no transfer of shares shall take place without the sanction of one director and the secretary, that no business shall be transacted in the absence of the secretary, that members shall have one vote for each share, that the directors shall not be bound to produce any balance-sheet, that auditors shall not be appointed, and that the books shall not be open to the inspection of members. The articles were revised in 1886, chiefly with the effect of making William Day managing director for life, with still more complete powers. It is an insult to commonsense to suppose that anybody but William Day, an unqualified person, is the "chemist and druggist" who shelters himself behind the Southampton Drug Company.

We have here given some details of three large and two small companies. Some employ qualified men, others do not. There appears to be, according to our information, a considerable amount of business ability in the men who conduct them; but it must be obvious, from the instances we have quoted, that the public are not getting, in their cases, what Parliament has declared to be necessary—namely, a guarantee that persons describing themselves as chemists and druggists possess certain qualifications. If this guarantee can be enforced by the Pharmacy Act it is most clearly the duty of the Pharmaceutical Council, to whom that Act is entrusted, to fight for it with the utmost vigour, and without delay.

CO-OPERATIVE STORES IN VICTORIA.

Another phase of the conflict between the Pharmacy Board of Victoria and the Co-operative Stores terminated on June 8, in a victory for the Board. It may be remembered that in the first instance the Board brought an action against the Equitable Co-operative Society for carrying on the business of a chemist and druggist in the dispensing of medicines. On appeal to the Supreme Court, the judges decided that the Society was actually carrying on the business, and that it was unlawful so to do. In this case, the drug department of the store was carried on under the management of a duly qualified pharmaceutical chemist. During the argument the judges raised the question whether it would not be lawful for a co-operative society to let a certain portion of their premises at a nominal rent to a qualified chemist who could carry on business there, selling and dispensing at prices fixed by the society? and they seemed inclined to answer this in the affirmative.

In the next case action was brought against the Federal Store (Limited) under rather peculiar circumstances. A prescription was taken to the drug department. The customer was told that the dispenser was absent, but that they would get the prescription made up outside. The prescription was sent out to a registered pharmaceutical chemist and dispensed, and was afterwards handed to the customer, who paid a certain sum for it. When the medicine was charged and paid for, the store did not know what the chemist would charge as the account had not been rendered, and could not, therefore, plead that it had only charged the cost to itself with a little extra for its trouble. The Pharmacy Board considered that this was carrying on business against the provisions of the Pharmacy Act, and brought an action to recover the penalty before the Melbourne magistrates. The magistrates dismissed the case as frivolous, and refused to state a case to be submitted to the Court of Appeal. On argument before the full court a *mandamus* to compel the magistrates to state a case was granted, and this case should have come on for hearing on June 8. It would have involved the very interesting question, is a man carrying on the business of a chemist if he sells to his customer medicines that have been made up elsewhere by a qualified chemist? Unfortunately the Victorian legal luminaries were not called upon to consider this point. Before action was taken against it, in the first place the Federal Store had transferred its pharmacy department, under agreement, to a qualified chemist, who was to continue to carry on the business on its premises. This agreement has now been cancelled. When the case was mentioned in the Court of Appeal, it was announced that the Federal Store had undertaken not to continue the business, and the Pharmacy Board, therefore, would not proceed further with the case. It was stated that the undertaking of the store was not to carry on the business of a chemist and druggist, either directly or indirectly, and to pay the Board 50*l.* for its expenses,

The two Stores hitherto dealt with have been open to the public. The oldest and most important, the Mutual Store (Limited), deals only with shareholders, and all Victorian pharmacists are watching with great interest for an anticipated attack upon it by the Board of Pharmacy. The outworks have been captured; that is regarded as the citadel. The weapon of the Pharmacy Board of Victoria is a clause in their Amended Act thus expressed—"The word 'person' shall be deemed to include any corporation, whether established by charter or otherwise, and any company or society registered duly in pursuance of the provisions of any Act of Parliament." That clause, which was drafted after the defeat of the Pharmaceutical Society here, shows that the Victorian pharmacists are not disposed to let their Pharmacy Act be a dead letter, even if we are supine about ours.

BUTYL-CHLORAL MIXTURES.

A correspondent in this issue sends a copy of a prescription which he has had to dispense, and which illustrates one of the minor difficulties which occasionally occur at the dispensing counter. The prescription is for a neuralgic mixture containing butyl, or croton, chloral hydrate and sulphate of quinine., It being difficult to make a presentable mixture of these ingredients with water, the prescriber suggested the addition of alcohol to dissolve the butyl-chloral, but on adopting the suggestion the dispenser found that an oily compound was formed. A similar difficulty was some time ago brought under our notice. In this case, a dispensing solution was made of butyl-chloral hydrate in a mixture of glycerine and absolute alcohol. This, when freshly made, dissolved in water without much difficulty, but on keeping for a few days there was a copious separation of oily-like drops whenever the solution was added to water. A solution in glycerine alone was found not to alter in solubility on keeping. Various experiments were made with solvents of different alcoholic strength, the result of which it is unnecessary to give in detail; suffice it to say that a saturated solution of butyl-chloral hydrate in absolute alcohol freshly made was found not to give crystals of the hydrate when poured into less cold water than was sufficient to dissolve it, and the same was observed with weaker solutions. Moreover, as the solution became older it was more difficult to perfectly diffuse in water. It was evident, therefore, that the affinity between the butyl-chloral and the alcohol was greater than between the alcohol and water, and that some chemical change had probably taken place. Agitation failed to induce anything else than mechanical division of the oily mixture, and on examination this mixture was found to be butyl-chloral alcoholate. We could only break up the oily body by the use of hot water, and even then it was cloudy, as all solutions of butyl-chloral in water are when prepared by heat. The alcoholate is readily formed by treating anhydrous butyl-chloral with alcohol, and, according to Pinner, who was the first to prove that the hypnotic is not crotonic chloral but butyric chloral, it may even be formed by treating the solid hydrate with alcohol. Our experiments indicate that it is only after a little time elapses before the change is completed in the presence of weaker alcoholic solvents. Nevertheless the change does occur, and is apt to cause difficulty such as our correspondent has experienced. Alcohol should, therefore, be excluded from mixtures containing butyl-chloral hydrate; sooner or later the insoluble alcoholate will be formed, and may be unobserved at the bottom of the bottle. Glycerine is the best solvent for the chloral. The Pharmacopœia states that it is soluble in its own weight, but this is doubtful. One in four is generally regarded as the limit, and a solution of this strength, made in the cold, is kept for dispensing purposes.

Prof. G. F. H. Markoe, of Boston, Mass., called attention a year or two ago to a similar change in a mixture containing chloral hydrate, potassium bromide, paregoric, and simple syrup. This mixture consisted of two layers, the upper one containing alcoholate of chloral. He conclusively proved that on adding alcohol to a strong solution of chloral hydrate the alcoholate separated. One well-known pharmacist supposed that the separation was not alcoholate of chloral, but alcohol, his theory being that the aqueous solution to which the alcohol was added was a saturated solution of chloral hydrate and potassium bromide, and he mentioned what he considered a parallel case, viz., the fact that when equal volumes of a saturated solution of sodium hyposulphite and rectified spirit are agitated together, they separate on standing. But there is no doubt that in Prof. Markoe's case it is chloral alcoholate which separates.

The British Pharmaceutical Conference.

The social programme of the twenty-fourth annual meeting of the British Pharmaceutical Conference has just been issued. The meeting is to be held on Tuesday and Wednesday, August 30 and 31, in the Chemical Lecture Theatre of Owens College, Manchester. This city offers a special attraction this year in its magnificent exhibition, which has astonished and delighted all visitors. The local committee have wisely judged that with such a temptation on the spot it would be embarrassing, as well as superfluous, to offer their guests visits to other works or places of interest in the neighbourhood during the continuance of the meeting. The scheme proposed to fill up the three or four days usually allotted to the Conference affairs is therefore as follows:—On Monday evening members will be received at the Grand Hotel by the President (Mr. S. R. Atkins, J.P.) and other officers. On Tuesday and Wednesday from 10 A.M. to 1 P.M. and from 2 to 4 P.M. the reading and discussion of papers will be proceeded with, the President of course opening this part of the business with an address. Luncheon is to be served each day in the college grounds during the interval. On Tuesday evening carriages will be provided to take members to the exhibition, and on Wednesday evening a smoking concert is arranged at the Grand Hotel. On Thursday, September 1, a special train of saloon carriages will leave the central station, Manchester, in the morning, for Matlock Bath, passing through the famous scenery of the Derbyshire High Peak. On arriving at Matlock, the high tor, caverns, Roman mines, &c., will be visited, and luncheon will be served at the Royal Hotel at 1 P.M. A carriage-drive through some of the most picturesque parts of the district will follow, and on returning to the hotel afternoon tea will be served in the drawing-room. In the evening the party will return by special train to Manchester. Tickets to include all the attractions are to be supplied for 10*s.*, while those who will not be able to avail themselves of the Matlock trip can take advantage of the rest of the programme for 5*s.* These tickets must be applied for and paid for before August 22, and early application for rooms should also be made by those who intend to be present. All communications are to be sent to the honorary local secretary, Mr. F. Baden Benger, 7 Exchange Street, Manchester.

⁂

The Supply of Cinchona

So true is it that the Ceylon growers of cinchona are the real factors in the movements of the bark market that we must look to the exports from that island for indications of any change likely to take place in the relations of supply to demand and to the future of prices. The trade circulars just received from Colombo show that from October 1 last to June 16 there had been exported 10,527,484 lbs. of all kinds of bark, against, at same time last year, 11,799,118 lbs., showing a decline in the shipments of 1,272,000 lbs. It may be said, perhaps, that quantities of cinchona were stored in Colombo waiting for better prices; but this assumption is not very reliable, as the exigencies of Ceylon planters are usually too great to admit of much holding back. Looking at the weekly returns of produce brought by the railway to Colombo, it appears that there has been a marked shrinkage in the quantity of cinchona carried for several weeks past, and the stormy monsoon weather then prevailing would not allow of further bark harvesting. It is now generally expected that 1888 will witness a great falling off in the cinchona exports from Colombo owing to uprooting.

⁂

How Nitrites Act.

In a recent clinical lecture on the dyspnœa of asthma and bronchitis, and the effects of nitrites upon it, Professor T. R. Fraser said that there are no facts that would justify the preference of any one of the nitrites because it possesses therapeutic advantages over the others in the treatment of asthma or bronchitis. There are, however, conveniences of administration which led him to give a preference to nitrite of sodium and to nitro-glycerine. They are both extremely stable, and they can readily be given in solution, either by the stomach or by subcutaneous injection. These advantages are not possessed by nitrite of amyl and nitrite of ethyl, and even the latter substance in the alcoholic solution (*spiritus ætheris nitrosi*) of the Pharmacopœia is notoriously a very uncertain preparation. It is probable that the favour with which this preparation is, notwithstanding, regarded is due, not only to the action on the circulation which it shares with the other nitrites, but also to its previously unrecognised influence on dyspnœa, which is, no doubt, exerted when it is administered in the treatment of bronchial catarrh. When the volatile nitrites are given by inhalation, the effects are only of brief duration; but when they are given by the stomach the effects are similar in their relatively prolonged duration to those of the non-volatile nitrites. Nitrite of amyl, nitrite of ethyl, nitrite of sodium, and nitro-glycerine have each proved successful in relieving the dyspnœa of asthma and bronchitis. They do so by removing bronchial spasm, and the remarkable power which they possess in doing this will probably lead to their being more largely used than they hitherto have been in the treatment of disease.

THE RELATION BETWEEN AGE AND DOSE was probably first established by Gaubius, whose figures are still often quoted. His tables were difficult to remember, and were in great part supplanted by the simple rule given in 1823 by Dr. Young. He assumed that the body attained its perfect growth at 21 years of age, and from that until the 45th year the full dose of any drug could then be borne. The rule, which is one of the best yet proposed, is to make a fraction, of which the age of the patient is the numerator, and the age, *plus* 12, the denominator. This fraction represents the proportion of the full dose which may be administered. Thus, if a child's age be four years, the numerator will be 4, the denominator $4+12=16$, and the dose $\frac{1}{4}$th of that for an adult.

Dr. Cowling's rule is, perhaps, a little simpler. By this it is assumed that the adult age is 24, and the dose is determined by the number of times the patient's age, next birthday, will go into this number. Thus, for a child of 3 years, $\frac{4}{24}$ths of the full dose should be given. Dr. Lauder Brunton, in his recent work on Pharmacology, proposes a modification of this method, which it is claimed is particularly well adapted to the metrical system. The adult age is taken at 25, and the age next birthday is divided into this as before. By multiplying by 4 and attending to the decimal point, the metrical dose is at once given.

The following table shows the variation of dose as calculated by the various methods, as also the differences between these and the figures given on the label. The quantities refer to an adult dose of 25 drops:

	Adults	Twenty Years	Ten Years	Four Years	One Year
Gaubius	25	22½	15	6	3¾
Young	25	15½	11½	6	2
Cowling	25	22	11½	5	2
Brunton	25	21	11	5	2

Canad. Phar. Journ.

Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

COCAINE IN THE BRAZILIAN SPECIES OF ERYTHROXYLON. —Dr. Theodore Peckolt, of Rio Janeiro (*Pharm. Rundschau*), has examined some of the congeners of *Erythroxylon coca*, indigenous to Brazil, with reference to the presence in them of cocaine, or a similar alkaloid. From the leaves of *E. pulchrum*, St. Hil. (E. utiles. Sald.), called by the natives Subrasil or Arco de pipa, he succeeded, in effect, in obtaining a minute quantity of an alkaloid having the characters of cocaine. From 10 kilos. of the fresh leaves he obtained ½ gramme of a crystalline alkaloid. This gave reactions similar to those of cocaine: whether it had similar physiological properties we are not told. The bark of the same species did not contain an appreciable amount of alkaloid.—*Pharm. Era.*

WALNUT SHELLS.

IN a paper entitled "Die Fruchtschall von Juglans regia L.' (*Archiv. der Pharmacie*, April, page 326), C. Hartwich describes the microscopic structure of the fruit of the walnut. The paper contains the results of numerous micro-chemical reactions, and is illustrated with fourteen woodcuts. Walnut shells were at one time in use as a medicine, but are now used only as a hair-dyeing agent.

ESTIMATION OF HYDROGEN PEROXIDE.

DR. H. THOMS has experimented with the four principal methods for estimating commercial solution of peroxide of hydrogen, and communicates his results to *Archiv. der Pharmacie*, April, page 335. The methods are (1) heating a measured volume of the solution of the peroxide with manganese peroxide or lead peroxide. The reaction which occurs may be expressed thus:

$$MnO_2 + H_2O_2 = MnO + H_2O + O_2.$$

The liberated oxygen is passed through strong sulphuric acid, and may be collected and measured, or the loss of weight which the apparatus and its contents suffer after the reaction is complete may be ascertained. In each case the percentage of H_2O_2 is calculated from the factor obtained. Squibb's urinometer is a suitable apparatus for this test. (2) 5 c.c. of the peroxide is mixed with three times its volume of dilute sulphuric acid (1 in 4), excess of decinormal permanganate of potash added, and after reaction is complete, excess of this reagent is estimated with decinormal oxalic acid. Two molecules of permanganate decompose five of hydrogen peroxide, and from the amount of the permanganate used the percentage of peroxide is calculated. A third method consists of adding a measured volume of peroxide solution to sulphurous acid, which is oxidised into sulphuric acid. This is precipitated as barium sulphate, dried, incinerated, and weighed, and the calculation made from the weight found. The fourth method tried was as follows: 50 centigrammes of potassium iodide were dissolved in a mixture of 50 grammes of water and 1 gramme of sulphuric acid (1 in 4); this was heated to 40° Cent., and 5 c.c. of a peroxide solution diluted with 9 volumes of water were added to it, and in five minutes the amount of iodine liberated was estimated with decinormal sodium hyposulphite (of which 1 c.c. = 0·0017 H_2O_2), by multiplying the number of cubic centimeters of hyposulphite solution used by 0·34, the percentage of H_2O_2 in the peroxide solution is obtained.

Peroxide of hydrogen (10 volumes) should contain 3·0382 per cent. of H_2O_2, and Dr. Thoms, working by the methods described, obtained the following results: (1) 3·2 per cent., (2) 3·224 per cent., (3) 3·23 per cent, and (4) 3·213 per cent. He considers that all four are useful methods, but gives preference to the first and fourth, which are easier and quicker than the others.

SEPARATION OF THE MORE IMPORTANT OPIUM ALKALOIDS.

SUPPLEMENTARY to a previous paper Professor P. C. Plugge, in the *Archiv. der Pharm.*, 3, 25, p, 343, details the process for, and gives experimental results of, the separation of narcotine, papaverine, narceine, thebaine, codeine, and morphine from each other. The principal points of the paper, which is of considerable length, are here given. We suppose that a solution of the whole of the alkaloids named is under treatment. To this add a strong solution of sodium acetate, allow to stand for twenty-four hours, collect the precipitate, and wash with a little water. It consists of narcotine and papaverine. Dissolve in dilute hydrochloric acid, add ferrocyanide of potassium, and again allow to stand twenty-four hours. Papaverine crystallises out as a ferrocyanide, and narcotine is separated from the mother liquor on the addition of ammonia.

The sodium acetate filtrate is to be evaporated to a small volume and allowed to stand for twenty-four hours, during which most of the narceine crystallises out. Filter and treat the filtrate with solution of sodium salicylate, which precipitates thebaine salicylate in the course of twenty-four hours. Again filter. The filtrate contains the excess of sodium salicylate, some narceine, and thebaine, and all the codeine and morphine. Add hydrochloric acid, and wash the mixture with chloroform, which dissolves out the precipitated salicylic acid, the thebaine, and narceine. Separate the aqueous portion, neutralise it and add potassium sulphocyanide solution. All the codeine crystallises out as sulphocyanide in the course of twenty-four hours. Collect it on a filter. The filtrate contains the morphine, and by treating it with ammonia solution the alkaloid is precipitated.

Judging from the experimental results obtained by Professor Plugge, assisted by Herr Orie, the methods which he proposes are satisfactory.

ACTION OF LIGHT ON OXALIC ACID.

RECENT researches of Duclaux (*Compt. Rend.*) show that oxalic acid in aqueous solution is decomposed into carbonic acid gas and water by the action of light in presence of oxygen. A curious point which has been elucidated is that if the solutions have been kept for two months in the dark before being exposed to the light the acid is more sensitive to the decomposing influence.

EVAPORATION OF "NON-VOLATILE" SUBSTANCES ALONG WITH STEAM.

IT is generally assumed that substances, such as inorganic salts in aqueous solution, are not affected, when the solution is heated, until the whole of the water is driven off. Delacharlomny has, however, recently ascertained (*Compt. Rend.*) that the vapour of solutions of sulphuric acid, caustic soda, sodium carbonate, ferric sulphate, and acid solutions of alum and ferrous sulphate, after the solutions have been heated for a few hours at 65° to 70° Cent., do contain the particular solid substance.

THE COLOURING MATTER OF KAMALA.

MESSRS. A. G. PERKIN AND W. H, PERKIN, Junr, have recently separated from kamala a substance which they name *mallotoxin*, $C_{11}H_{10}O_3$ or $C_{18}H_{16}O_5$ (*Berichte*). It was obtained by shaking powdered kamala with bisulphide of carbon, evaporating the solution, and treating the residue with just enough bisulphide of carbon to remove the resinous impurities. It was finally purified by crystallising from benzene or toluene. It formed small flesh-coloured needles, soluble in alkalies, alcohol, and acetic acid, but insoluble in water. The *Rottlerin*, which Andersen obtained in 1855, was stated by him to have the formula $C_{11}H_{10}O_3$ [$C_{20}H_{22}O_6$ in "Pharmacographia"]. In a subsequent number of *Berichte* L. Jawein also refers to the crystalline compound, which he found to melt at 200° Cent., but his analytical results do not agree with the formula of Andersen. The Messrs. Perkin are following up this part of the subject.

CHLORINE.

DR. C. WINKLER has proposed a method for preparing chlorine in the cold, which is capable of use with Kipp's sulphuretted hydrogen apparatus. Chlorinated lime is mixed with its own weight of burnt gypsum, and dampened with water. The damp mass is then subjected to pressure between oiled cloths. The cake is cut into small cubes, and dried quickly at 20° Cent. The cubes should be kept in well-closed bottles. When used with Kipp's apparatus, pure hydrochloric acid diluted with its own volume of water is placed in the globe.

TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"Any person who has good grounds for objection to the registration of any of the following marks may, within two months of the date of this journal, give notice in duplicate at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1883, of opposition to such registration." The address of the Patent Office is Southampton Buildings, London, W.C.

From the "Trade Marks Journal," July 13 *and* 20, 1877.

Figure of a Red Cross sister (class 48); for perfumery and goods, such as soap, of class 47. By G. Mason & Co. (Limited), 417 King's Road, Chelsea, S.W. (62,903–4). The same for chemicals used in medicine and pharmacy. 63,155.

"Bird's"; for chemical substances (Class 3), and for food substances (Class 4). By A. F. Bird (trading as Alfred Bird & Sons), Devonshire Works, Birmingham. 53,773–4.

"Stower's Lime Juice Syrup," and other wording, on fancy label; for lime juice syrup. By R. H. Pugh (trading as Alexander Riddle & Co.), 38 Commercial Street, E. 55,779.

Initials of the depositors as a monogram; for chemical substances (Class 2), soaps, &c. (Class 47), and perfumed soaps (Class 48). Also "John Knight, London," on label, with other wording; for common soap, perfumed soap, and disinfecting soap. By John Knight & Sons, Silvertown Soap Works, Silvertown. 61,291–6.

"Golden Drops," and figure of a cherub; for medicine (liquid) for human use. By P. J. Jordan, physician, Boston, Mass. 62,247.

"Falcon," on shield, with other words, the whole incorporated in a design; for chemical substances. By Wilkinson, Heywood & Clark, varnish manufacturers, 7 Caledonian Road, King's Cross, London. 62,325.

Figure of a monument; for aërated waters. By James Hindle, 20 Chapel Lane, Hull. 62,561.

"The Children's Own Cough Syrup," with figures of children on label; for a patent medicine. By R. W. Stevenson, chemist, Derby. 63,223.

Negative portrait of a man; for medicines. By Martin Magor, chemist, Aston New Town, Birmingham. 63,297.

"Taylor's Excelsior Polish," on flag borne by a youth; for polish for metal and wood. By Henry Taylor, 157 Railton Road, Herne Hill, S.E. 63,329.

"Animatio"; for medicinal preparations. By G. F. H. Bartlett, chemist, 143 High Street, Battersea, S.W. 63,441.

"Health Soap," and other wording, with figures, on label; for a medicated soap. By the Health Soap Company, Bootle. 63,471.

"Eucalyptus Cream," and other wording, on label; for a preparation for chapped hands. By Samuel Courtney, analytical chemist, Mount Pottinger, Belfast. 63,688.

"Instantaneous Plate Cleaner," and figure of a lightning flash; for a liquid for cleaning silver. By Walker & Hall, Howard Street, Sheffield. 63,878.

"Propert"; for polishes, blacking, and kid cream. By R. Beddow & Sons, 142 Battersea Park Road, S.W. 64,392.

"The Dundee Bouquet," other wording, and Dundee arms on label; for a perfume. By Charles Kerr, pharmaceutical chemist, Dundee. 57,998.

"Bow-Spring"; for prepared rubber for dentists' use. By the S. S. White Dental Manufacturing Company, Philadelphia. 59,518.

"Anti Arthritic," and signature; for an embrocation for human use. By Edward Lucas, dispenser, trading as Edward Lucas & Co., Castle Hill, Northampton. 62,140.

"Voogd's Rasir Seife;" for shaving soap. By R. Hovenden & Sons, trading as Voogd, Berners Street, Oxford Street, W., and elsewhere. 62,254.

"Strang's Wine, the Original Cod-liver Wine," and "Strang's Cordial, the Original Cod-liver Cordial"; for the respective preparations. By James Mitchell, manufacturing chemist, trading as Strang & Co., 18 Manchester Avenue, St. Martin's-le-Grand. 62,257–8.

"Queen's Invincible"; for chemicals of Classes 2 and 3. By Hodgson & Simpson, Wakefield. 62,292–3.

"Golden Reign"; for mineral and aërated waters. By Haynes & Finemore, 4 Whitfield Street, Finsbury, E.C. 62,338.

"Our Little Pet's Feeding-bottle," and other wording, on label; for feeding-bottles. By E. A. Hearn, glass-bottle manufacturer, trading as E. A. Hearn & Co., 381 Kingsland Road, Middlesex. 63,022.

"Cedraline"; for a chemical preparation for protecting the skins of animals from insects. By T. G. Gibbons, pharmaceutical chemist, Manchester. 64,118.

"Clavicide"; for chemical substances used in medicine and pharmacy. By G. P. Pond, surgeon chiropodist, 68 Fleet Street, E.C. 64,237.

NEW COMPANIES.

Acme Filter Company (Limited).—Capital, 10,000*l.*, in 1*l.* shares, to purchase and work the letters patent No. 5,407, dated November 13, 1882, granted to Jasper Wetter, for the manufacture and sale of the Grant Revolving Bull Water filter. The first directors to be S. G. Moseley, Worcester, manufacturer; J. F. Pearson Moseley, Worcester, agent; J. R. Hands, Alexandra Hotel, Liverpool.

Rubinat-Condal (Limited).—Registered by William Condal, 30 and 31 St. Swithin's Lane, E.C., with a capital of 250,000*l.* in shares of 1*l.* each. Object, to purchase or acquire the exclusive or any other rights in perpetuity or otherwise in the mineral and other springs known as the Rubinat-Condal and other adjacent springs, situate on the Rubinat estate in Spain of M. Gustave de Bofell, and all necessary or convenient powers and rights in connection therewith, and either by way of lease or otherwise.

Henry Hodder & Company (Limited).—Registered July 1, 1887, "to carry on the trade and business of a wholesale and retail chemist and druggist," and purchase the business and goodwill of the business at 8, 9, 10, and 11 Broad Street, Bristol. Capital 25,000*l.* in 1*l.* shares. The following are the first subscribers:—F. J. Alder, 49 Broad Street, Bristol, auctioneer and valuer (200 shares); G. Britton, Albion Chambers, Bristol, solicitor (250 shares); G. Nichols, junr., 49 Broad Street, Bristol, surveyor and valuer (200 shares); H. R. Wansbrough, 1 Lion Chambers, Broad Street, Bristol, solicitor (500 shares); H. G. Colman, 13 Princes Buildings, Clifton, gentleman (250 shares); S. Collard, 96 Gloster Road, Bishopstone, Bristol, licensed victualler (750 shares). The first directors are to be Henry William Carter, mineral-water manufacturer; H. G. Colman, gentleman; and F. J. Alder, auctioneer and valuer; all of Bristol. The directors are not to be remunerated, except by special vote, until after the company has paid 10 per cent. per annum. The price to be paid for the lease, goodwill, plant, &c., is fixed at 16,500*l.*, and for the stock-in-trade 6,500*l.*, provided that the valuation shall indicate that amount. Mr. Hodder is to be paid 10,000*l.* in shares and the balance in cash. The company take over the business from July 18, and the vendor is to act as manager without remuneration, and undertakes that during thirty years he will not, either solely or jointly, or as manager or agent, take part in the conduct of any wholesale or retail chemist and druggist's business, nor permit his name to be used in such, nor shall he sell any of his shares until the company shall have paid at the rate of 10 per cent. on the capital. The registered office of the company is at Albion Chambers, Small Street, Bristol.

Gazette.

PARTNERSHIPS DISSOLVED.

Bartikeit, Holzhey & Co., Dunster Court, Mincing Lane, merchants and commission merchants, as far as regards J. G. Mosenthal.

Hodgkinsons, Stead & Treacher, Upper Whitecross Street, wholesale and export chemists and druggists, as far as regards J. M. Stead.

Turner, P. T., & Co., Sheffield, glass bottle manufacturers.

THE BANKRUPTCY ACT, 1883.

Receiving Orders.

Brizell, John, jun., Liverpool, veterinary surgeon.

Hogben, Thomas, Hawkinge, near Folkestone, veterinary surgeon.

Johnson, George, Godalming, chemist, grocer, and tobacconist.

Taylor, Herbert (trading as David Taylor & Sons), Mark Lane, City, and Piccadilly, merchant.

The following amended notice is substituted for that published in the *London Gazette* of July 5:—

Laing, Joseph, Stapenhill, Derbyshire, drug and general store keeper.

First Meeting and Public Examination.

Brizell, John, jun., Liverpool, veterinary surgeon. July 27, Official Receiver's Offices, Liverpool; July 25, Court House, Liverpool.

Day Appointed for Proceeding with Public Examination Adjourned Sine Die.

Shaw, Thomas, late of the Hydropathic Establishment, Colwyn Bay, Denbighshire, physician and surgeon. July 28, Court House, Bangor.

Adjudications.

Hogben, Thomas, Hawkinge, near Folkestone, veterinary surgeon.

Johnson, George, Godalming, chemist, grocer and tobacconist.

Whitham, Joseph (trading as Joseph Whitham & Co., and as the Whitecroft Printing Company, Pendleton and Baxenden, Lancashire, dyer and printer; also trading with T. Brayshaw as Witham & Brayshaw, Manchester, galvaniser), Miles Platting, chemical manufacturer.

Notices of Dividends.

Dodworth, Albert, Sheffield, pallette-knife manufacturer. First and final div. of 11*d*., July 22, Official Receiver's Offices, Sheffield.

Ferguson, William Kennedy (separate estate), Leeds (trading with T. W. Wetherell), chemist and druggist and electro-plater. First and final div. of 8*s*., July 21, Mr. J. W. Close's, 32 Park Row, Leeds.

Personalities.

A well-known Sheffield pharmacist who has lately recovered from a serious illness has shut up his shop and gone to the seaside for a month. A notice to that effect is placed on his door.

Mr. Henry Irving, in his farewell speech to the Lyceum audience last Saturday night, referred to the numerous fashions which "Faust" had created, and humourously remarked that he did not get a commission on any of them. "Nor," he added, "am I responsible for the enterprise of Mr. Beecham, who has endeavoured to turn your thoughts from poetry to pills, by informing you, on the pages of Goethe's tragedy—price one penny—that his infallible remedy could be purchased for one and three-halfpence a box. In these deep and dark designs I have had no hand whatever."

Trade Notes.

Messrs. Sharland & Co. (of Auckland, New Zealand) have removed their London office from Sambrook Court to 119 & 120 London Wall, E.C.

Mr. Alexander Turner, pharmaceutical chemist, lately with Messrs. Carruther & Allen, Dumfries, has acquired by purchase the business of the late Mr. John Shearer, Kelso.

Mr. Thomas Nicklinson, chemist and dentist, Derby, has closed his business in that town and removed to Cromford, near Derby.

Mr. John S. Ellis and Frederic F. White, who have been with Messrs. David Taylor & Sons for twenty-five and seventeen years respectively, have established themselves at 61 Mark Lane as general commission merchants.

Wellington Knife Polish.—In a trial heard last week in reference to an alleged colourable imitation of their labels, Messrs. Oakey & Sons stated that between 1861 and 1886 they had used more than 21,000,000 labels for their Wellington knife polish.

Bromo-Soda.—We have received a sample of Messrs. W. R. Warner & Co.'s bromo-soda, which is a nicely-granulated preparation of sodium bromide and caffeine. It is a well-prepared article, and a teaspoonful of it forms a pleasant draught with half a tumblerful of cold water. The preparation is specially recommended for nervous headache and sleeplessness, and for these purposes it enjoys a good reputation amongst medical men. It has also been used with good results as a remedy for sea-sickness. The agents in this country are Messrs. F. Newbery & Sons, King Edward Street, E.C.

Rayner's Lemon Bitters.—Messrs. Rayner & Co., of 9 Farringdon Road, E.C., have introduced a new preparation under this name which is likely to command a ready sale. Lemon-juice is the basis of the bitters, which are agreeably flavoured with aromatic and bitter tonics. A little added to cold water furnishes a refreshing draught in these warm days, and at the same time acts as a stimulating tonic. It is attractively put up in pint bottles.

Owing to the retirement of Mr. Stead, who for nearly fifty years has been connected with the firm of Hodgkinson, Stead & Treacher, Upper Whitecross Street, E.C., that firm has undergone a change, and will now be known as Hodgkinson, Treacher & Clark. The new partner, Mr. Frank Clark, was for a number of years the representative of the firm in Scotland and the North of England, but during the last eighteen months has taken the Midland Counties for the firm. We understand that Mr. Clark (who is popular wherever he goes) will still keep up his provincial connection.

Tinct. Opii Aquosa.

Formula—	Oz.
Opium	1½
Glycerine	4
Water (boiling)	16

Digest the opium in the water and macerate for three days, then filter, and press the marc, adding to it as much water as is required to make the filtrate 16 oz., then add the glycerine.

To Bleach Sponges.

First wash well in cold water; then immerse in a bath composed of 2 drachms of permanganate of potash and 1 oz. of strong sulphuric acid to the gallon of water.

The duration of the immersion varies according to the size of the sponge, &c.

To obtain the colour so much admired, wash well in soda water, then immerse the sponge in a solution of carbonate of potash (4 oz. to the gallon) until you have hit the colour, then wash and dry.

Foreign and Colonial.

PHARMACY LAWS IN THE UNITED STATES.—Various pharmacy laws are now in force in the following States and Territories:—Alabama, Colorado, Connecticut, Dakota, Delaware, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Virginia, West Virginia, and Wisconsin. There is also a local law for the city of Baltimore.

THE MEDICAL CONGRESS AT WASHINGTON, U.S.—The Berlin Medical Society, it seems, have decided not to send delegates to the Washington Congress. The only official delegation sent by the society appears to have been to the Copenhagen Congress for the purpose of inviting the medical brotherhood to hold the next meeting in Berlin. But the motion was not taken into consideration, owing to a Franco-American combination, the Germans believe. Hence a sore feeling, which has led to the decision just taken—so, at least, say the Paris medical papers, with evident jubilation.

QUININE.—Seven tenders, says the *India Mercury*, have been received for the supply of 50 kilos. (1,765 oz.) sulphate of quinine for the Dutch Government. The following firms competed:—J. van den Berg Wz., Amsterdam; J. J. Louet Feisser, Amsterdam; J. J. Mouton & Son, the Hague; Julius Meijer, Amsterdam; K. W. G. de Bosson, Dordrecht; C. L. Schepp & Son, Rotterdam; Mastenbroek & Gallenkamp, Amsterdam. The lowest tender was at the rate of 37.20f. per kilo. (1*s.* 9*d.* per oz.), the highest at 41.50f. per kilo. (1*s.* 11½*d.* per oz.). There does not seem a great margin for profit here.

ALUMINIUM.—An electro-chemical process of preparing aluminium—quite distinct from the Cowles electric smelting process—has been developed by Dr. Kleiner, of Zurich. The method is simple and rapid, and is to be tested for a year at works capable of turning out at least 200 pounds of pure metal per week. The two elements of the process are the ore—cryolite, a double fluoride of sodium and aluminium—and the power required to drive the dynamo, and it is expected to produce aluminium at very much less than half its present cost.

CINCHONA IN VICTORIA.—Mr. Bosisto, M.L A., when visiting India as Victorian representative at the Calcutta Exhibition, procured for the Department of Agriculture some seed of the cinchona plant. The seed was sown in the Mount Macedon State nursery, and some of the plants thus raised were afterwards, for experimental purposes, transferred to several of the State forests, but they have not thrived. Mr. Ferguson, Inspector of State Forests, has since expressed the opinion that the plant will never become acclimatised to endure the winter frosts of Victoria.

SALE OF ARSENIC-COLOURED GOODS IN SWEDEN.—Her Majesty's Minister at Stockholm in a recent despatch calls attention to the laws regulating the sale of goods, such as paper-hangings, roller-blinds, Venetian blinds, artificial flowers, and other articles in water-colours. If on chemical analysis 200 square centimetres of the article yield a black or blackish brown arsenic mirror in a glass tube of 1½ to 2 millimetres inner diameter, such goods may not be kept for sale nor sold. The same applies to stuffs, woven fabrics, yarn, lamp-shades, sealing-wax, wafers, composite candles, 100 square centimetres of which (or 21 grammes of the solids) yield the mirror.

VICTORIAN CUSTOMS DECISION.—The Commissioner of of Customs on May 9 made the following decisions. Extract of celery, beef and iron, menthol plasters, and Warner's pills in bulk are to pay a duty of 25 per cent. as proprietary medicines. Ingluvin, formerly charged as a patent medicine, is to be admitted free; liquor pepticus is not to be regarded as a proprietary medicine, and will be admitted free; lanoline, as from woolfat, is to be free as an animal oil; inkoleum, a refined mineral oil, igniting under 80 deg., is to be free as an essential oil; iodoform, Kupecke's Infants' Food, cathartic pills, cathartic improved liver pills, all free; Midlothian oat flour, 20 per cent.

Trade Report.

Note to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., July 21.

LITTLE business this week; trade is dull, perhaps not worse than it has been of late—indeed, it is attributed to the absence of so many people from town. The auction sales have been devoid of animation. Drysalteries show a slight decline, and in the spice sales cassia lignea went at 6*d.* per cwt. less than it has recently sold at privately; nutmegs were also cheaper. It will be noticed that quinine (Howard's), following the depreciation of bark, has decreased in value by 2*d.* per oz.; on the other hand, citric and tartaric acids are dearer, while the same has to be said of bleaching powder and permanganate of potash. These are the articles which tend to increase in value with the warm weather. Ipecacuanha is now fairly on the downward path, and the fall in price will probably be accelerated by the large arrivals this week. Opium and its products show no sign of depreciation.

ACID (CITRIC).—This article shows no signs of giving way—indeed, it has rather advanced this week from 1*s.* 8½*d.* to 1*s.* 8¾*d.* and then to 1*s.* 9*d.*, at which it closes firm.

ACID (OXALIC) is still very slow and dull at 4*d.*

ACID (TARTARIC).—The scarcity of tartar materials continues, and we understand that the arrivals during the past week do not meet the output. The prices now quoted are 1*s.* 7½*d.* for *English*, while *foreign* is in good demand at 1*s.* 7¼*d.*

ALKALI.—The transactions in soda compounds are nominal, and caustic soda has an easier tendency; but the quotations of a fortnight ago still rule. In *Nitrate of Soda* there has been a good business done for cargoes on the way.

AMMONIA SALTS are procurable at the prices last quoted, although for *sulphate* the market is steady and prices have an upward tendency. The London prices for this are 12*l.* 12*s.* 6*d.* to 12*l.* 15*s.* for 24 per cent. grey; at Hull it is 12*l.* 15*s.*, but 12*l.* 17*s.* 6*d.* has been asked, although no business at this figure has been done.

ANISE is quiet at last rates. The new seed is of satisfactory quality.

BEESWAX.—Thirty-five packages Australian bought in on Thursday at full rates, buyers only at a slight decline therefrom.

BLEACHING POWDERS.—Within the last two weeks the demand for bleaching powders for sanitary purposes has been unusually great, and the consequence is that prices are considerably higher. In London ex warehouse it would be difficult to buy for less than 8*l.* 15*s.* per ton, and 9*l.* is asked by sellers. These prices will not go easier as long as the hot weather and the epidemics in various parts of the country continue.

CANARY SEED.—The improvement noticed in our last report has been well maintained. The following prices are now quoted:—Turkish, 45*s.* to 47*s.*; Morocco, 50*s.* to 52*s.*; Dutch small grained, 50*s.* to 51*s.*; large, 52*s.* to 54*s.*; Spanish, 53*s.* to 60*s.* per 464 lbs., ex warehouse.

CARAWAY SEED is in somewhat better demand. The new crop is now being harvested. A large part of the caraway-growing district in Germany suffered heavily from blight in the earlier part of the season, and the demand from that country has consequently been well maintained. New Dutch seed is quoted at 30*s.* to 32*s.* on the spot. Some parcels of English-grown seed will come on the market this year. The first samples have just come to hand, and the quality is exceptionally fine.

CINCHONA.—The sales took place on Tuesday. Fewer packages were brought forward, viz., 4,663, as compared with 7,649 at the sale a fortnight ago. These were distributed as follows:—*South American*, 2,225; *Ceylon*, 1,734; *Indian*, 582; and *Java*, 122. More than two thousand packages of the South American retired. The most noteworthy sale in this lot consisted of 54 bales of cultivated Bolivian quill in fine condition, which brought 1*s.* 1*d.* The other 150 packages sold were soft Columbian bark, which has been five years in warehouse on this side. As will be noticed the supplies of *Ceylon bark* were somewhat under the usual rate, but they were more than enough for the demand, and prices were somewhat lower, the average of the unit being 2½*d.* Of 1,734 packages Ceylon offered, 1,500 were sold. *Succirubra* (natural), dust at 1½*d.*; branch, chips mixed with small, at 3*d.* to 4*d.*; stem chips, weak, 3*d.* to 3½*d.*; medium to good, 4*d.* to 5*d.*, fine, 5½*d.*; spoke shavings, mixed small and weak to medium, 2½*d.* to 4*d.*, fair to good, 4½*d.* to 5½*d.*, fine bright, 6½*d.*; root, 4*d.* to 6½*d.*; a few rich, 9*d.*; renewed, principally common, 3½*d.* to 5½*d.*; medium to good, 6*d.* to 8½*d.*; fine, mostly shavings, 9*d.* to 1*s.* *Officinalis* (natural), dust, 1½*d.*; chips with branch, &c., 3*d.* to 6½*d.*; stem chips, 5*d.* to 6½*d.*; root, 6*d.* to 11*d.*; renewed, poor, 6*d.* to 7½*d.*; medium to good, 9½*d.* to 10½*d.*; rich, 11*d.* to 1*s.* 3*d.* *Ledgeriana*, dust at 2*d.*; branch chips, 1½*d.* to 4*d.*; stem chips, 3*d.* to 4½*d.*; spoke shavings, 5*d.* to 6½*d.*; one lot red, 1*s.* 2*d.*; root, 5½*d.*; chiefly renewed from 5*d.* to 10*d.*; rich, 1*s.* to 1*s.* 2*d.* *Indian.*—About two-thirds of what was brought forward sold. *Succirubra*, natural branch dusty, at 1*d.* to 3½*d.*; chips, small mixed, 2½*d.*; medium to fair, part quilly, 3*d.* to 4½*d.*; good and fine, 5½*d.* to 9*d.*; spoke shavings, common to fair, 3½*d.* to 4½*d.*; good, 5*d.* to 5½*d.*; fine, 7*d.*; root, 3*d.* to 9*d.*; quill, broken, 6*d.* to 10½*d.*; fair bright, 1*s.*; fine bright silvery and mossy, rather mixed and broken, 1*s.* 4*d.* to 1*s.* 6*d.*; ditto but bolder and stronger, 1*s.* 9*d.* to 1*s.* 11*d.*; superior stout stem, 2*s.* 7*d.*; crown and other kinds (mostly Madras), branch, 2*d.* to 5½*d.*; chips, 6*d.* to 9½*d.*; shavings, 6*d.*; quill, small broken, 10*d.* to 10½*d.* Java bark sold very well. *Ledgeriana*, branch, 3*d.* to 9*d.*; chips, weak quilly, 5*d.* to 6½*d.*; fine strong, 10*d.* to 1*s.* 1*d.*; very rich, 1*s.* 7*d.*; root, 7*d.* to 1*s.*; renewed, 1*s.* *Officinalis*, root, 6½*d.*; *succirubra*, branch, 3½*d.*; shavings, 5½*d.*; root, 4½*d.* per lb. There have been considerable arrivals of Ceylon bark during the past week. At the public sales at Amsterdam on July 14, 1887, 181 cases and 707 bales *Java* were offered, of which 159 cases and 78 bales were druggists' bark, and 22 cases and 629 bales were manufacturers' bark. Eighty-nine cases and 389 bales were sent by the Government, the remainder had been cultivated by private parties. All was sold, and prices paid as follows:—

	Cents		
Succirubra quills ..	36 to 159,	per ½ kg.	(abt. 6½*d.* to 2*s.* 4½*d.* p.lb.Eng.).
„ broken quills	25 „ 60	„	„ 4½*d.* to 11*d.*
„ renewed, chips	34	„	„ 6*d.*
„ root ..	25	„	„ 4½*d.*
C. Schuhkraft & Anglica quills	57 to 180	„	„ 10½*d.* to 2*s.* 8½*d.*
„ broken quills	36 „ 37	„	„ 6½*d.*
„ root ..	28	„	„ 5*d.*
Officinalis chips, very dusty	32 to 55	„	„ 6*d.* to 10*d.*
Ledgeriana quills ..	46 „ 84	„	„ 8¼*d.* to 1*s.* 3¼*d.*
„ broken „ & chips	10 „ 121	„	„ 2*d.* to 1*s.* 10*d.*
„ renewed, chips	55 „ 81	„	„ 10*d.* to 1*s.* 2½*d.*
„ root	107	„	„ 1*s.* 7½*d.*

According to the official analysis the unit may be estimated at 12½ to 15c. per ½ kg. = abt. 2½*d.*, but by far the best prices were paid for druggists' bark of good exterior; *e.g.*, for

Calisaya Anglica, long bold quills, cont. 2·51 per cent. quinine, 6·51 per cent. total alkaloids, 165 to 180c., equal to 2*s.* 6*d.* to 2*s.* 8½*d.*

Succirubra Anglica, long bold quills, cont. 1·62 per cent. quinine, 7·64 per cent. total alkaloids, 159c. = 2*s.* 4½*d.*

Calisaya and Schuhkraft, long bold quills, cont. 0·84 per cent. quinine, 4·25 per cent. total alkaloids, 150c. = 2*s.* 3*d.* per lb.

The chief buyers were Zimmer, Frankfort, and French houses.

COPAL.—Of 339 packages only a small proportion found buyers to-day at 40*s.* to 44*s.* for dusty to very bold mixed, and 27*s.* 6*d.* for dark. 13 cases *African* of inferior grade realised 38*s.* to 45*s.*

COPPER SULPHATE is in good demand at old prices.

CREAM OF TARTAR, like tartaric acid, is in active demand at advanced rates; from 127*l.* to 127*l.* 10*s.* per ton are now the ruling prices.

CUMIN SEED remains scarce at 35*s.* to 40*s.* on the spot.

CUTCH is steady, with sales of small extent at previous figures.

DAMAR.—35 cases sold to-day at 61*s.* for dusty to medium, bold rather yellow *Singapore* at 47*s.* to 49*s.*, mixed with dark and specky, prices being rather easier.

FENUGREEK is quiet at present, and prices without change. Present prices, 7*s.* 6*d.* to 8*s.* 6*d.* per cwt.

GAMBIER continues firm, with moderate small transactions. Of about 400 bales at auction about half sold, at 35*s.* per cwt. for fine pale cubes, part a little blocky.

GUM ACROIDES.—1 bag sold "without reserve" at 3*s.* per cwt.

GUM ANIMI.—Of 35 cases *Zanzibar* only 14 sold, showing no alteration in value, viz., 12*l.* 10*s.* per cwt. for washed and scraped medium bold amber; 12*l.* 7*s.* 6*d.* small and a little medium intermixed pale; 11*l.* medium and bold red and reddish; 8*l.* good pale bean and pea size, and 38*s.* pale siftings, part rather specky. Of 4 cases *Demerara* half sold at 10*s.* for very low drossy.

GUM ARABIC.—There is nothing to complain of in the business done in this gum; the demand has not been over brisk, but it is steady, and especially so for the best gums. For example, the demand for fine qualities of *Australian* gum is sufficiently great to warrant collectors spending more time and giving more thought to the picking of the gum. It is reported that a parcel of fine white *Barbary gum* has changed hands at a higher figure. Amrad has been sold at 75*s.* The scarcity of Aden amongst *East Indian gums*, which we reported on July 7, continues. Fine qualities have sold at 6*l.* 10*s.*, and in Ghatti gum there have been small sales at 55*s.* to 57*s.* 6*d.* The *Senegal* market continues rather firmer, and further sales of Galam have been made at 6*l.* 10*s.* In *Turkey* gums the business done is not worth reporting, and so far old figures are maintained. 1,255 cases of all descriptions offered to-day, comprising 1,105 packages East Indian descriptions, 90 packages Australian, 38 Cape of Good Hope, and 22 Ghezirah. Only about 280 packages found buyers—namely, *East Indian* at 5*l.* 17*s.* 6*d.* to 6*l.* 15*s.* for good to fine pale frosted Amrad character in sorts; 4*l.* 12*s.* 6*d.* to 5*l.* small pale drop mixed with reddish fairly picked; 75*s.* dusty to bold pale and reddish mixed; 61*s.* fair siftings mixed with curly Amrad; 37*s.* 6*d.* to 55*s.* specky to pale reddish siftings; 18*s.* to 28*s.* low common fair and dusty ditto; 10*s.* to 17*s.* glossy Oomra kind, fair quality, partly rather dark; 30*s.* to 46*s.* low and ordinary ditto; 39*s.* to 40*s.* small red Amrad pickings; 71*s.* bold selected Ghatti, and 60*s.* to 64*s.* good fair medium ditto; 13*s.* 6*d.* to 27*s.* low and common dark pale woody. *Australian* good medium and bold realised 63*s.* to 65*s.*; smaller size, 60*s.*; dark partly bold, 52*s.* to 59*s.*; blocky common barky to fair, 18*s.* to 34*s.*; *Cape* fine selected white tears, 10*l.* 17*s.* 6*d.*; slightly yellowish, 4*l.* 7*s.* 6*d.*; ordinary good yellow, 3*l.* to 3*l.* 6*s.*; pale siftings, 38*s.* to 40*s.*; pale blocky, 40*s.* to 52*s.*; dark, 15*s.* to 25*s.*; sorts small dusty palish soft, 6*l.* 7*s.* 6*d.*; *Ghezirah* fair quality, 81*s.*

IPECACUANHA.—The business done this week has been of a retail character at the decline of 1*s.* 6*d.* per lb., which was noted last week. It is understood that the stocks of second-hand holders are now almost exhausted. Some unexpected supplies came forward last week, and this week we have to note further deliveries of over 100 packages. This, in combination with the fact that this is not the season of the briskest demand, cannot fail to influence the downward tendency of prices.

Kauri Gum.—At the last public sales 1,659 cases were disposed of. Fair competition was experienced, but values were somewhat irregular. Hard scraped selected sorts ruled from 5s. to 10s. per cwt. dearer, soft well-scraped and selected kinds from 2s. to 4s., and chips from 1s. to 2s. per cwt. higher. Descriptions from 5l. 10s. to 7l. per cwt. value declined 5s. to 7s. 6d., and black and brown kinds from 50s. to 70s. per cwt. fell from 1s. to 3s. per cwt.

Musk.—A considerable portion of the bought in Tonquin at last drug sales has been since sold privately, at a price for the selected genuine usual class for first pile in close proximity to 75s. per oz., if, indeed, that was not the actual figure. The stock of musk is very small and the prices by no means proportionately high.

Nux Vomica is in considerable demand in consequence of the increased applications for strychnine. The stock in docks at end of June was 479 bags, against 873 and 726 at the end of June 1886 and 1885 respectively. Scarcely any of the present stock is in the original importers' hands, and some of the manufacturers have supplied themselves in advance with large quantities for arrival.

Oils (Various).—Little business in *Cocoanut oil.* Ceylon at 24l., and Cochin and Mauritius at prices previously quoted. *Cotton-seed oil* is slightly easier, the price for refined now being 21l. to 21l. 10s. *Linseed oil* became rather easier immediately after our last report, but has since recovered somewhat, and the prices now quoted are, 21l. 5s. to 21l. 12s. 6d. The market closes firm. *Rape-seed oil*: Little business and a dull market without change. *Turpentine* is firmer on the spot at 26s. to 26s. 6d. for American. There is little business doing. *Petroleum* closes at 5$\frac{5}{16}$d. to 5$\frac{3}{8}$d. spot; Sept.-Dec., 5$\frac{3}{8}$d. to 5$\frac{7}{16}$d. Referring to the future of the petroleum market a circular states that "an important feature of the present outlook is the absence of increase in the production of American crude oil, which usually takes place during the summer months. Indeed, the production for May actually fell below that of April to the extent of over 1,000 barrels per day. The importance of this feature, however, is materially modified in face of the fact that production has, it is understood, been artificially kept down, but at the same time the very fact that the producers are able to keep down the production is of itself worthy of notice. In the ordinary course these circumstances would inevitably lead to higher prices, but the view with which Russian competition is looked upon in America will, we think, effectually prevent any important advance in crude. Prices of refined oil are confessedly being kept down on that account, and there is every probability that they will so continue unless American refiners come to look upon Russian competition in a different light to that in which they now view it."

Olibanum.—Of 1,002 cases, &c., a very small part sold, middling garblings at 14s. per cwt.; middling to fair siftings, 13s. to 14s., and some down to 12s. for similar quantity, odd single packages.

Olive Oil.—From Naples (under date July 15, 1887) we hear there has been a further advance in Olive oil of 10s. to 15s. per tun, prices closing at Gallipoli, Taranto and Brindisi, 32l. to 32l. 5s. sterling per tun, f.o.b. Gioja, 30l. 10s. to 31l. id. The reports from Gioja continue favourable, but in other parts of Calabria and Rossano crop prospects are poor, and the estimates at Gallipoli, Taranto, Brindisi and Monopoli are now reduced to a quarter or a third of a crop. The stocks at Gallipoli and Gioja are about 6,500 and 5,700 tuns respectively, being about 7,000 tuns short of the quantity held last year at this season.

Opium.—Our Smyrna correspondent sends us the following estimate of the anticipated yield of opium:—

	Cases (=about 150 lbs.)	
	Maxima	Minima
Malalia, Amassia, Tokat, Zillé, &c.	300	200
Beybazar, Gueive, Angora, Biledge	300	250
Salonica	600	500
Smyrna and District	100	100
Bogaditch	150	150
Timar, Yediz, Onchak, Kulaya	150	150
Carahissar and District	300	250
Koniah and District	450	400
	2,350	2,000

The above estimates have been carefully made, but our correspondent adds that very latest advices lead him to believe that the crop will barely reach the lower figure. The plants in all districts, especially in Carahissar and Koniah, are found very deficient in juice. During the first week of this month a sale of 10 cases of new opium had been effected at 17s. 10d. per lb. f.o.b. Quotations were very firm, and a further advance was confidently anticipated.

Peppermint Oil.—There were small sales of H. G. Hotchkiss late last week at 15s., but there are now sellers at 14s. 9d. and perhaps 14s. 6d. Indeed, it is reported that 15 cases sold privately to-day at that figure. Some parcels of old stock L. B. Hotchkiss and Hale & Parshalls are expected on the market shortly. *Japan* moves off very slowly, although prices are extremely low and consumption materially increases.

Quinine.—Messrs. Howards & Son have lowered their price for sulphate by 2d. per oz., so that 2s. 4d. now buys this brand in 1-oz. phials. *Boehringer's* is quoted at 2s., and it has been reported that secondhand holders offer at 1s. 10d., but this requires corroboration.

Saffron.—Higher prices may be expected, the supplies being short.

Shellac is very scarce in market, and although the quantity shipped from Calcutta for the first half of the present month is comparatively small, and gives indications of the supply falling off, the shipments for the first half of the year are large, and the stock heavier than it has ever been before. At auction on Tuesday prices again went in buyers' favour, orange to the extent of 6d. per cwt. average, and garnet nearly 2s. There were 476 cases catalogued, and 345 cases sold. A large proportion of the supply was of 1881 to 1885 import, previously bought on speculation at prices no doubt double those now ruling. Strong second orange, slightly mixed with reddish, made 42s. 6d. to 43s. 6d. per cwt.; livery, second orange, partly weak, 41s. to 41s. 6d.; darker and out of condition, 39s. to 40s. 6d.; garnet, good AC, 37s. to 37s. 6d.; BCB, 36s. to 37s. The finer qualities of orange were all held off the market, but privately small sales of TN average quality have been made at 46s. to 46s. 6d. For arrival little has been done, or if done has not transpired. There are rumours of sellers of TN second orange, July to September shipment, at 45s., landed terms, and of garnet AC. October to December shipment, at 40s. c.i.f., but it appears that when buyers crop up, as they do occasionally, there are then no sellers. The uncertainty as to the future of the article is great, but many whose opinions are worth consideration opine that the market has seen bottom, and if the rumours (dormant for several years past) of failure of crop of shellac now current are based on fact, an upward movement may at any moment take place.

Star Aniseed Oil sells very slowly at 7s. 5d. and Cassia oil at 2s. 8d. The demand for both is solely from hand to mouth, and as articles of speculation they seem to be entirely forgotten. Stocks are unusually light and prices very low. *Citronella* is quite neglected, and only sells in retail at a shade under 1d. per oz. Recent attempts to instil a little life into the article appear to have been quite futile. *Lemon-grass oil* is neglected, and shows no alteration in value, being nominally 1$\frac{7}{8}$d. to 2d. per oz.

Turmeric is a little firmer, though no advance in value has taken place. There were 930 bags Madras and Cochin in Tuesday's public sales, and about one-third found buyers; Cochin finger of fair quality at 11s. per cwt.; Madras dull medium and bold finger at 9s. 6d.; and whole bulbs at 8s. for both dull and fine bright. In Bengal there have been small sales at 11s. 6d. for fair, the former value, but nothing done afloat.

Compositions for Laboratory Floors.—(1.) Mix together boiled linseed oil and finely powdered coal, to produce a substance of the consistency of paint. Apply a coat of this to the floor. (2.) In a metal pot make a mixture of 40 parts of chalk, 50 of resin, 4 of linseed oil, and 1 of native cuprous oxide. Then stir in, carefully, 1 part of sulphuric acid. A sort of mastic results, which may be applied hot, and, when dry, forms a varnish of stony hardness.

Correspondence

Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers please mark what you wish us to read

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Letters, queries, &c., not noticed in this issue will, if possible, be attended to next week.

Before writing for formulæ consult the last volume, if you have it.

Ferris's Nepenthe.

DEAR SIR,—We observe in your issue of the 9th inst. that you publish what purports to be a formula for "Nepenthe," sent you by a correspondent.

This supposed formula is entirely incorrect.

Our object in writing you is to call your own attention, and that of your numerous subscribers, to the fact that, on July 18, 1884, we obtained an injunction from the *Court of Chancery* against Goodman and all others, *perpetually restraining them from selling, or offering for sale, any formula or receipe for Nepenthe, and from otherwise prejudicing the sale thereof*.

As Nepenthe is very frequently prescribed in cases of serious disease, such as "cancer," &c., it is of the utmost importance that medical men should be able to depend upon Nepenthe itself being in all cases used when it is prescribed or ordered.

And with reference to our own rights as makers and proprietors, to which we note you are good enough to refer, we shall put in force the injunction whenever we find them infringed by the trade. We are, dear sir, yours faithfully,

Bristol, July 18, 1887. FERRIS & CO.

[We heartily agree that when a physician prescribes or a customer asks for any proprietary medicine, nothing can justify the chemist in dispensing or supplying any substitute whatever. And this rule of ordinary honesty applies (as we have often stated) whether a formula be published in this journal, in the British Pharmacopœia, or in any other compilation. The dispenser who, for the sake of an extra penny or two of profit, will cheat in compounding a prescription is clearly unfit for the honourable occupation he has chosen.]

Pharmacy in Queensland.

SIR,—Seeing that my letter addressed to you on the subject of my experience in Queensland, which you print in your issue of March 12, has been commented upon very kindly and generously by your correspondent, Mr. C. Saunders, in a subsequent issue, I must beg you to allow me space in your valuable columns to explain what seems to have given rise to some misunderstanding. I did not wish to convey to readers of my notes the impression that dispensing yielded my chief source of income. It is by no means so; dispensing returns form only one-sixth part of my gross returns. To the usual adjuncts of a chemist's business I have added stationery and tobacconist's goods, so with a population of under 1,400 I manage to exist. Still, under similar conditions as to sanitary arrangements, there is far more sickness in Queensland than in England, consequently there is more medicine taken. A large percentage of this sickness is, either directly or indirectly, the result of malarial poison. The emigrant guidebooks mislead people in England by stating that malaria is almost unknown in Queensland. There may not be so much as in other tropical countries, but it is very prevalent in the bush. I have had colonial fever (a variety of ague) five times within a period of eighteen months. My statement that there is more sickness in Queensland than in England *under similar sanitary conditions* might appear antagonistic to the fact (shown by the colonial insurance companies) that the death-rate is lower in Queensland than in England. A casual or thoughtless observer might at once infer from this that Queensland is more healthy than England, which I maintain is not the case. Compare the health of the population living under favourable circumstances in England—pure air, no overcrowding, plenty of food (plain) and clothing—with that of the colonists under similar conditions, to which *all* may attain, and I am certain the health of the former will be far better than that of the latter, and that the death-rate will be lower amongst the former. It is the high death-rate amongst that large proportion of the population of London and other cities in England which lives, half starved and half clad, in filthy, overcrowded slums, that raises the average in England. Statistics are apt to give rise to erroneous inferences, just as that well-known statement that married men live longer than unmarried men leads many to conclude that married life is more conducive to longevity than unmarried life. Let them try it. The fact simply shows that most single men lead reckless lives. Providing single men lead steady lives, they will live longer than married ones; the former are exempt from domestic cares. But to return to my subject. I know of twenty-two deaths (there may have been more) which have occurred in this district during the last twenty-one months, of which number eight were children or infants, nine were under forty years of age, three under fifty years, two over fifty and under fifty-five. I think this shows a large percentage of deaths of comparatively young people. Throughout the colony old people are conspicuous by their absence. A large proportion of deaths occur from "delirium tremens," drunkenness being appallingly prevalent in the colonies. Almost everyone drinks to excess—labouring men, business men, professional men, all drink. Unfortunately there is not the disgrace, the stigma, attached to the victim of drunkenness in this country that there is in England. I have often thought what a terrible mistake it is for parents to send their sons, in whom they may perceive incipient signs of some particular vice, to Australia, where temptations and inducements to indulge it are not less strong than in England, where, at least, young men have the advantage of home influence for good. The colonies are crowded with young men—many of good family—who have been a disgrace to their relatives at home, and are sent out here invariably to go from bad to worse.

It is almost impossible for respectable families to live on some goldfields. A few weeks ago the proprietors of a claim on a goldfield in this district began to employ Kanakas (South Sea Islanders) instead of white men, and I noticed a party of five Kanakas, with two white women travelling with them. I am told these are all living under the same hut or tent on the field, where there are several respectable families living. Nor am I describing an exceptional state of things, for the Chinese quarters in almost every colonial town show evidence of even greater atrocities.

Having been a public school boy, perhaps I am prejudiced in favour of the training, both moral and mental, afforded by the system of education in public schools, and I certainly do not consider I would be doing my children justice if I did not start them in the world with a better training than can be obtained at the State schools in Queensland. But I need not trouble anyone to read my own peculiar opinions; I need only mention that people here recognise the advantages of town life for their children, and all who can afford it send their sons and daughters to Sydney or Melbourne to "complete their education" (as they say in these parts), or, if special advantages are desired, to England. It is so noticeable in Queensland, because the young men and women go away quite ignorant, awkward, half-civilised, and come back in a few years almost as ignorant, with a superficial polish or veneer, invariably to "cut" the old people dead, and enter into a social sphere quite above their former connections. This is universal in Queensland,

and it seems to be an object of ambition amongst the members of a certain class to be able to put on plenty of "side" and to snub their parents. "Society" here is composed entirely of such people; but perhaps this is less objectionable than that of Sydney, where (it is notorious) many public men—legislators, lawyers, men holding the highest official positions—are the direct descendants of convicts. The convict blood is painfully apparent, too, amongst the "larrikin" class, and in the appalling crimes of which these "larrikins" are convicted—the Moose Park outrage is the most recent example of a state of things which is comparatively unknown in England. Any way, legislation has had to frame special laws to meet the exigencies of these cases, so I am not exaggerating.

I do not quite follow your correspondent's mode of reasoning in concluding that the town-bred man will be a "dismal failure" out here. Certainly, the man who has had a classical education is not on that account bound to get on in Australia; indeed, it is more often the biggest rogue who does well—the sycophant, the man who goes to church twice on Sunday to sit out with pious resignation the dismal monotones of an illiterate lay preacher, for the sake of the gain it brings him during the week; but if you look for those traits of character which will make a good citizen, a fearless, outspoken, self-reliant, honourable, and persevering man, I do not see why you would not find them as prominent in the town-bred man as in the country-bred man, and no one will say that the man who has had his intellect expanded by a classical education will therefore be deficient in them. I hold also that he who has been brought up carefully in comfortable circumstances at home will stand hardships and "rough it" with more pluck, endurance, and philosophy than the indifferently trained. It is certainly true that the town-bred man and another brought up in the country may look at things from a different point of view. One man will consider that an ideal freedom when he can roam through the streets of London unknown and unnoticed, where he does not even know or care who is his next-door neighbour; the delights of life in a rural district, where everyone knows more of your own affairs than you do yourself, have little charm for him, probably, but that need not affect his success in Australia. Any way, I am not at present an example of the "dismal failure." In spite of bad times and a decreasing population I have made my business returns greater than two preceding me.

I am afraid I have written too much to be of service. The sum of what I wish to point out to is this. Queensland is a splendid country for diggers, labourers and mechanics—men who are paid badly at home, who have meat once a week perhaps, and have to live in miserably crowded dwellings. They come out here, are well paid, eat meat three times a day (you should just see them), and live in comparative freedom. Queensland bush life will not suit anyone who has lived in tolerably good circumstances at home; of course life in the towns is more endurable, but we cannot all live in Brisbane or Rockhampton, and if we do, only look at the system, or rather want of system, of drainage of all colonial towns. In Brisbane there are cesspits at the backs of the houses in the principal thoroughfares, and in such a climate as this! No wonder typhoid fever is prevalent in colonial towns. There is no civilisation at all outside the bush towns, and in the bush towns society is formed on a false basis; if there were only working men to deal with it would be far better. I respect the genuine working man, he is a good customer and you can always please him; it is the squatters, the Government servants, and the other "howling swells" that spoil colonial society. There is very little to eat besides bread and meat in bush towns; what there is, besides, is very dear. Of course we have to depend on the resources of our own family circle for any music, arts, sciences, and other civilising and elevating influences. To any man of average acquirements there is no opportunity for that beneficial attrition of kindred minds which is so productive of pleasure and profit; for instance, I do not know of one man in this place who can play chess. It is when you have to live for years in an uncongenial atmosphere, with no prospect of making more than a poor living, that one remembers the many delights of life in rural districts in England, in contrast with the utter absence of any in Queensland bush life.

That it may not appear I am ungracious or insensible of benefits received, I ought to state that I received great kindness and assistance from some gentlemen in the drug trade, to whom I was introduced on my arrival in Brisbane.

I am, sir,
Your obedient servant,
ORA ET LABORA.

Queensland, May 16.

The Ascent of Sap.

SIR,—The question referred to by an "Edinburgh Student of Pharmacy," as it appears in yours of May 21, runs thus: "How do you reconcile the ascent of the sap to the *top* of a tree (height *not* specified) with the fact that a column of water can be supported to the height of 30 feet only?" The answer is that the column of water is dead—the tree is alive. The word "life" is not one ordinarily used by scientific people, but it probably contains the shortest and simplest statement that can be made. To attribute the ascent of the sap to the "forces of osmosis and capillary attraction," however satisfactory it may sound, is merely to delay or evade the point. The further question at once arises, "Whence come these forces?" The column of water, like other dead things, is subject to the law of gravitation which living things ignore or defy up to the extent of their vital power. An apple grows on a living tree not in consequence of gravitation, but in spite of it, and no Sir Isaac Newton can explain how it gets up there.

There is an excellent book written by, I believe, a Scotchman, Henry Drummond, entitled "Natural Law in the Spiritual World," which will well repay perusal by any student, either of pharmacy or of the phenomena of life.

289 Harrow Road, W., Faithfully yours,
July 16. T. G. ASHTON.

A Teacher of Pharmacy (132/6) sends the following note on this subject:—

The fluids of plants are diffused in one of two ways. In spring, before the development of the leaves, root-pressure is the active agent. This root-pressure is caused by the great activity of the absorptive organs, the root-hairs. By virtue of the law of osmose, the root-hairs absorb moisture from the soil, and transfer it to the layers of cells by which they are surrounded. According to this law, if two different liquids are separated by a membrane which they are both capable of wetting, currents are set up between the liquids. The nature and direction of those currents are determined by the nature of the liquids. The cells of plants contain organic acids, and these are now generally supposed to be the active agents in the production of osmotic currents between soil and root-hairs and between root-hairs and parenchyma. In the centre of roots is generally found the vascular cylinder. The vessels which form this being empty do not fulfil the conditions necessary for osmose to take place. Here, then, is a limit to the passage of the osmotic current inwards, and therefore, if osmose were the only active agent in diffusion, to the absorption of water. The activity of the root-hairs is not so easily stopped, however; absorption proceeds, the parenchymatous cells become turgescent, a considerable amount of pressure is exerted on the walls of the vessels, and filtration takes place into the cavity of the vessels. In the absence of leaves, the vessels soon become filled; and if at this period an incision be made in the stem, bleeding takes place. This, in fact, frequently takes place without incisions being made. It must be evident that it is only necessary for this root-pressure to be continued in order to raise water to the top of the highest trees independent of the pressure of the atmosphere.

After the expansion of the leaves, the water which they lose by transpiration is supplied from the root by way of the wood vessels. It travels, however, not in their cavities, but in their walls. This fact has been proved by the observation that the vessels are always empty when transpiration is most active, and by another striking experiment of Sachs's. If a young branch of pine be cut during winter, the ends cut smooth, the branch then placed in a vertical position, and its upper end moistened with water, the lower end becomes wet immediately. That this is not due to the water travelling from end to end in the cavities of the vessels is proved by the fact that the young wood of pine is entirely composed of tracheides, or closed wood cells. It can only be due to the pressure of the upper layer of water acting on a continuous column in the walls of the tracheides. In annuals all the vessels of the wood are agents in this process; in perennials the young wood only. The water reaches the walls of the wood vessels from the parenchyma of the root in the same way as the water forced into the cavities in early spring—namely, by the pressure exerted by the surrounding turgescent cells of the parenchyma, probably facilitated by the lowering of tension in the vessels caused by the evaporation going on at their extremities. The force at work in the movement of the transpiration current is evidently capillary attraction.

F. B. (132/25) refers an Edinburgh student to Bentley's Botany, fifth edition, p. 820.

Preservation of Leeches.

SIR,—Although leeches are, like goldfish, very accommodating, and live for a long time without any apparent supply of food, I think they sometimes die of starvation, which causes them to attack each other. This supposition is based on the avidity with which leeches swallow worms or small pieces of raw meat, with either of which—preferably with worms—they should occasionally be fed.

Overcrowding should be avoided. The aquarium or jar should be supplied with a layer of small stones, a piece of moss, and (where pond weeds cannot be had) with watercress. Spontaneous vegetable growth should be encouraged, and not cleaned off the sides; the water, if offensive, drawn off through a syphon. The hand that searches for them when required for sale should be scrupulously clean. Acting thus it will rarely be necessary to disturb the gravel, which can seldom be accomplished without injury to the sanguisugæ.

I am, sir, respectfully,
G. E. S. (132/35.)

SIR,—I find no difficulty in keeping leeches, if they are placed in an ordinary glass aquarium, with a layer of earth at the bottom covered with shingle, and almost four inches of water, which must not be changed, only added to, as it evaporates, care being taken not to disturb the vegetation as it forms on the bottom and sides. I have kept leeches perfectly healthy for months. Too much light must be avoided.

Yours, &c.,
W. H. J. (257/13.)

131/3. *W. P.* says the preservation of leeches is really very simple. He has an ordinary glass aquarium with a perforated zinc cover; the bottom is covered with sand and small pebbles, over this about four inches deep of water; when the water gets too full of "skin-casts," or looks at all discoloured, it is changed for fresh, which is taken from a filter also standing in the shop. Cold water is fatal to them. The sand cleanses them. He does not lose a leech a month. When this plan fails he will try a "rusty door-chain"; till then leaves well alone.

The Ammonia Question.

SIR,—The following is another method for calculating how much water should be added to liquor ammoniæ ·880 in order to reduce it to s.g. ·891, assuming that no contraction or otherwise takes place:—

Let x = water required; then

$$x + 1 + 100 \times {\cdot}880 = (x + 100){\cdot}891$$
$$x + 88{\cdot}0 = {\cdot}891\,x + 89\,1$$
$$x - {\cdot}891\,x = 89{\cdot}1 - 88{\cdot}0$$
$${\cdot}109\,x = 1{\cdot}1$$
$$x = 10\,092 \text{ per cent. water required.}$$

Proof—

$$\begin{array}{rcl} 100 \times {\cdot}880 & = & 88\,00 \\ 10{\cdot}092 \times 1 & = & 10\,092 \\ \hline 110{\cdot}092 & \text{into} & 98\,092 = {\cdot}891 \end{array}$$

From this we deduce the following:—

Let x = quantity of water, a the quantity of liquid, b its s.g., c s.g. required, and d s.g. of liquid to be added (water).

$$\text{Then } x = \frac{a \times (b - c)}{c - d}$$
$$x = \frac{100 \times (880 - {\cdot}891)}{{\cdot}891 - 1} = \frac{100 \times -{\cdot}011}{-{\cdot}109}$$
$$= \frac{1{\cdot}1}{{\cdot}109} = 10{\cdot}092$$

The answer of the candidate is, therefore, practically correct.

Working from percentages the same result is obtained, and your formula is quite correct; but 36 is *about* the percentage of NH_3 in ·880 s.g.

$$\text{Thus, } 36 - 32{\cdot}5 = \frac{3{\cdot}5 \times 100}{32{\cdot}5} = \frac{350}{32{\cdot}5} = 10{\cdot}7$$

It is not possible to get *absolutely accurate* figures with liquids such as ammonia without allowing for contraction or expansion, but the above are approximately correct, and the examiner ought to be satisfied with that.

Yours truly,
AMMONIA. (13/132.)

[According to Carius, the specific gravity of a solution containing 36 per cent. of ammonia gas is 0·8844, and as the strength increases approximately one per cent. for a decrease by two in the third decimal figure of the percentage, this would show that the ·880 liquor contains about 38 per cent. of ammonia. It is the fact, however, that the commercial liquor is seldom of that strength. As the liquor suffers expansion on dilution with water, our formula is the better one to base calculations upon.]

Sarsaparilla Mixture.

SIR,—Respecting Mr. John Moss's letter on this subject in your last issue, I beg to send the following, taken from the pages of THE CHEMIST AND DRUGGIST nearly twenty years ago:—

"**Decoctum Sarzæ Concentratum (F. G.).**

"To prepare this decoction, 10½ lbs. of Jamaica sarsaparilla are placed in a large and well-cleaned copper boiler, and enough boiling water added to cover the root, which is then left to macerate without boiling for three or four hours; after this it is boiled for about an hour, and the clear liquid drawn off into another clean copper pan; the root (after it has well drained) is then washed with boiling water until the latter runs off scarcely coloured; the washings are added to the decoction, and the whole evaporated as quickly as possible to 6½ pints; it is then set to cool, and rectified spirit of wine, 1½ pint, further added; after agitation the whole is set aside in a well-corked bottle, in a cool place, for a week. In a few days it is usually found as clear and brilliant as brandy, with very little sediment, and will keep for any length of time uninjured. Some manufacturers, instead of washing the root, give it a second and third water, boiling it each time, and evaporating the mixed liquors."

Yours obediently,
July 18. G. E. S. (132/35.)

P. S.—I shall be glad if "C. E. L." will try the following:—

Ext. sarzæ Jam. comp.	℥iv.
Aquæ tepidæ	f. ℥xxij.
Glycerini	f. ℥ij.
Ol. sassaf.	gtt. xx.
Chloroformi	gtt. xx.

Misce.

Country Superstitions.

SIR,—In this country (Devonshire) many medical superstitions survive. Within a few miles of my house there lives an old gentleman, a descendant of a Dutch physician who came over with William of Orange. He is a man of fine physique, and presumably of abundant animal magnetism. He is also said to be the seventh son of a seventh son. The country people therefore "touch" him for the King's Evil. I believe he does not claim special power over disease, but he is invested with it by popular opinion.

In another neighbourhood an old woman makes (or did make) a curative ointment for ulcers; one of the ingredients is a chip of "Peter's Stone." This is a piece of freestone stolen from Exeter Cathedral.

An approved treatment here for scrofula is to dry the hind leg of a toad and wear it round the neck in a silken bag; or else they cut off that part of the living reptile which answers to the part affected by scrofula, and, having wrapt the fragment in parchment, tie it round the neck of the sufferer. In cases of rheumatism a "wise man" of Devonshire will burn a toad to ashes, and tie the dust in a bit of silk to be worn round the throat. The oft-quoted remedy, "A hair of the dog that bit you," appears in many forms. In Devonshire, any person bitten by a viper is advised at once to kill the creature and rub the wound with its fat.

These instances may be multiplied almost *ad infinitum*, certainly *ad nauseam*. Yours truly,
DAMNONIENSIS.

DISPENSING NOTES.

[*The opinion of practical readers is invited on subjects discussed under this heading.*]

Effervescing Saline.

SIR,—I have often mixed the following powders, but always with poor results:—

P. sodæ tart. exsic.	ʒj.
" acid. tart. "	ʒj.
" sodæ bicarb. "	℥j.
" potass. bitart.	℥j.
" " sulph.	ʒss.
" sacch. alb.	℥iss.

M.

When freshly mixed it is a nice impalpable powder; but on keeping, although kept in air-tight bottles, and capped, absorbs a great deal of moisture, and forms quite a hard mass. Can you tell me the cause, and give a remedy, if any?
Yours truly,
W. LEE.

[The caking is principally due to the sugar. The best way to avoid it is to granulate the powder very slightly. See the 'Art of Pharmacy" for directions as to how to do this.]

Limousin's Cachets.

SIR,—Can you give me any information respecting these capsules or caskets?

Ferri lact.	gr. iij.
P. fol. digital.	gr. ss.

Ft. pulv. d. ad capsul. amylæ Limousin. Mitte xx.

Yours truly,
WILTS. (129/58.)

[Limousin's cachets are small circular discs of rice-paper, not unlike a soup-plate in form. Powders are administered in them, and as the cachets are largely used in France, there should be no difficulty in getting them through a patent-medicine house.]

Liq. Quininæ.

SIR,—Can you supply me with form for making liq. quin. sulph. amorphous? As Messrs. Bullock have given up making their preparation, perhaps they would not mind publishing their formula. I have tried other makers' but always get a deposit on dilution, but it used not to be so with Bullock's. Yours truly,
A. M. (32/130.)

Croton Chloral Mixture.

SIR,—Having had the following prescription to dispense, viz.,

Croton chloral hydrat.	gr. xl.
Spt. vini	♏. xxx.
Quininæ sulph.	gr. xxx.
Aq. ad	ʒx.

I proceeded to make up the prescription by rubbing up the croton chloral hydrate with the quinine sulphate, then adding the spirit. I adopted this method according to the doctor's advice, as I saw him personally; his idea was to make a kind of tincture before adding the water, but instead of forming a solution it formed quite an oily mass, which would not under any circumstance mix with the water. Can you explain the reaction? Afterwards we dispensed the mixture by adding separately each article, when it formed a reasonable mixture, but with a thick deposit.
Your opinion will much oblige,
July 15. Yours truly,
W. L. (130/53.)

[An alcoholate of butyl-chloral is probably formed. See note on another page. The quinine may also liquefy with the butyl-chloral in the same way as it does with ordinary chloral hydrate.]

Cascara Sagrada Pills.

SIR,—Cascara sagrada pills may be made quite hard with the addition of a little glycerinum amyli and a drop of S.V.R. With this excipient I have got a splendid pill.
Yours truly,
NEPENTHE. (130/70.)

SIR,—I find a mixture of 1 part of liquorice to 2 of acacia the most satisfactory hardener for this extract. Few extracts vary so much in character. I shall be glad to hear if it is ever met with free from acidity.
Yours truly,
HEDER. (132/19.)

Dialysed Iron and Quinine.

SIR,—Is it possible to make a clear mixture from the following?—

Quininæ sulph. (Hd.'s)	gr. xvj.
Spt. chloroformi	ʒij.
Liq. ferri dialysati	ʒiv.
Aquæ destillat. ad	℥viij.

M. ft. mist.

I have made it up twice, but have been unable to make a clear mixture of it. Yours respectfully,
CYMRO. (133/10.)

[The mixture cannot be dispensed clear.]

A French Prescription.

Die (130/5) has had the following prescription to dispense, and wishes formulæ for the articles:—

Baume de Fioravanti	15 grm.
Huile de Camomille	30 "
Alcool de Genièvre	120 "

To rub the knee.

The following are the formulæ:—

Baume [*or alcoolat*] *de Fioravanti.*—Venice turpentine, 50 elemi, resin of tacomacha, amber, liquid storax, galbanum, myrrh, and bay leaves, of each 10; aloes, ginger, galangal root, zedoary root, cinnamon, cloves, nutmegs, dittany of Crete leaves, of each 5; spirit (s.g. ·862), 300 parts. Macerate the roots, cinnamon, cloves, nutmegs, and bay leaves in the alcohol for four days, then add the rest of the ingredients; after two days strain and distil 250 parts.

Alcoolat de Genièvre.—Juniper berries, 1 part; alcohol (s.g. ·862), 8 parts. Macerate four days and distil.

Huile de Camomille.—Chamomile flowers, 1 part; olive oil, 10 parts. Digest for two hours in a water-bath, stirring from time to time. Then submit to pressure and filter. (Liquids and solids by weight.)

MISCELLANEOUS INQUIRIES.

129/39. *Cedric.*—A formula for ginger-ale syrup was given on July 9; 6 drachms of it added to 10 oz. of aërated water forms ginger ale. **Ginger Beer** is made by fermentation. In 1 gallon of water dissolve ½ lb. of sugar, 2 drachms of cream of tartar, and add ½ oz. of strong tincture of ginger and a whole lemon sliced. Float a piece of toast on the liquor, pour a tablespoonful of yeast on the toast; let stand for twelve hours, strain through a fine cloth, and bottle.

130/38. *R. J.*—A formula for **Sulphur and Lead Hair Restorer** was given on June 18, page 761.

Books.

130/37. *Micizinski.*—We do not know of any book devoted to the manufacture of fruit essences exclusively. Piesse's "Art of Perfumery" is one of the best volumes on that subject. It is published by Longmans & Co.

130/19. *Apprentice.*—Oxalic acid removes ink-stains and many other colours. It is not surprising, therefore, that the colour of the coat has changed. There is little chance for the restoration of the colour. Ammonia may do it, but it will produce an iron stain.

130/17. *J. H. Elmitt.*—The formula for **Anti-Catarrhal Smelling Salts** will be found on page 247 of our issue of February 19.

130/54. *Meta.*—**Culinary Essences** as sold by grocers are solutions of 1 part of the essential oils in 19 parts of rectified spirit. **Soluble Essence of Ginger.**—It is often necessary to keep the mixture of tincture and water, after treatment with alkali, for several days in contact with fine sand or powdered pumice (washed clean). Shake occasionally and filter as required.

131/8. *Variæ.*—**Lime Juice Cordial.**—We have given formulæ for this preparation in back numbers. The following is a new one:—

Sugar	3 lbs.
Lime juice	30 oz.
Tincture of lemon-peel	2 ,,
Boric acid	$\frac{1}{4}$,,
Citric acid	2 ,,
Water to	1 gallon.

Dissolve the acids in 2 pints of water, and in the solution dissolve the sugar by the aid of heat. When cold add the lime juice and the tincture with sufficient water to make one gallon. Colour with burnt sugar.

Cucumber Ointment. — Several correspondents have stated that they have difficulty in obtaining this. If they ask for cucumber pomade they should have no difficulty, and we observe that Messrs. Hearon, Squire & Francis advertise it in this journal.

131/47. *Nostribor.*—A strong infusion of quassia is as effectual and safe a fly-killer as any. That and arsenic solution are what are used for saturating fly-papers.

131/48. *Acid. Tart.* writes regarding the formation of black matter on "the piece of tin holding the hairs of a gum brush." This happened a few days after the brush had been kept in a bottle of "Stronghold" gum for a few days. We have received a sample of the black matter, which is simply an iron compound. The action of an acid mucilage on the tinned iron accounts for the formation.

129/59. *W. J. A.* — Cotton-grass (*Eriophorum polystachyon*, L.). Natural order, Cyperaceæ. Cotton-like down, sometimes used for stuffing cushions.

129/24. *J. T. H.*—Snowberry (*Symphoricarpos racemosus*, Michx.). Natural order, Caprifoliaceæ. Native of North America.

129/46. *Rhubarb.*—The mineral which you send is a clay iron ore, and the fruit is not that of the ginger plant.

131/23. *Gower.*—The simplest, but not the best, plan of judging the quality of milk is to measure the amount of cream which separates from it. Graduated glasses (cremometers) for this purpose are sold.

132/54. **Boils.**—Calcium sulphide is best given in pill for the cure of eruptions. Doses from $\frac{1}{12}$ grain up to $\frac{1}{2}$ grain are made into a pill with equal parts of sugar of milk and powdered liquorice massed with glycerine of tragacanth. It is not advisable to give it in the form of a syrup; a nice coated pill is much better. Begin with the smallest dose and gradually increase.

132/41. *Axle.*—**Waggon-axle Grease.**—We are not acquainted with the make of grease which you mention. The following is a method of making a grease for ordinary purposes:—Heat together 100 lbs. of rosin oil, and 80 lbs. of lime, slaked and afterwards sifted fine. Stir the mixture constantly while heating, and continue the heating until the mixture is uniform and of the consistency of syrup. The resulting mixture is called rosin soap. Take 10 lbs. of this and 10 lbs. of palm oil, melt together, then stir in 500 lbs. of rosin oil, and sufficient rosin soap to make the mixture of the consistency of butter. Lastly, add 7 lbs. of caustic soda, heat and stir until thoroughly combined.

131/66. *Ormonde.*—The alleged composition of Warner's Safe Cure was given in our issue of March 26, and the formula for Laville's Gout Mixture on April 2. The Government analysis of Lamplough's Saline you will find in our issue of April 30, p. 543. We cannot repeat formulæ because subscribers have lost their copies of recent issues, but we can supply copies if in print.

Laville's Gout Pills.—Extract of alkikengi (winter cherry), 15 parts; silicate of soda, 5 parts. Make a mass, and divide into 5-grain pills. From 4 to 10 of these are taken per day.

132/36. *E. R. Marsh.*—**Digestive Candy.**—The following formula is from the "Art of Pharmacy:—

Ginger in powder	2 drms.
Rhubarb in powder	3 ,,
Carbonate of magnesia	1 oz.
Granulated sugar	16 ,,
Water	8 ,,

Boil all together until of a proper consistency, then add 40 drops of oil of peppermint, stir well, pour out, and divide into half-inch squares.

A formula for a preparation similar to Bromidia will be found on p. 452 of last volume. Several formulæ for nursery hair lotion are also given in that volume.

133/24. *Suburb.* — **Elixir Aurantii** (simple elixir), U.S.P.:—

	Parts
Oil of orange	1
Cotton	2
Sugar in coarse powder	100
Alcohol and water, of each a sufficiency to make	300

Mix alcohol and water in the proportion of 1 part of the former to 3 parts of the latter. Drop the oil on the cotton, distributing it thoroughly by picking, then pack it in a funnel and pass 200 parts of the alcohol and water through it. Dissolve the sugar in this without heat.

Information Wanted.

[*Replies to the following requests are solicited by Correspondents of* The Chemist and Druggist.]

12/130. Present address of Indian Pencil Company, recently of 10 Kirby Street, Hatton Garden.

32/130. Physician who recently advertised cure for consumption by means of sub-cutaneous injections.

10/130. Growers of buckwheat and dari-seed.